# THE BUILDER

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"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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## BUILDING LABOUR AND THE WAR

THE Essential Work (Building and Civil Engineering) Order, 1941, signed last week, marks an important step in the building industry. Whether that step is forward or sideways remains to be seen, for while regulations are simple to make, the desired results are not necessarily so easily achieved.

The main provisions of the Order are that, when an undertaking is scheduled:

(1) The right of an employer to discharge a worker, and of the worker to leave, is strictly controlled;

(2) A guarantee of a certain minimum time-rate of wages is given, subject to conditions; and

(3) Cases of alleged absenteeism, unpunctuality, failure to comply with lawful orders, and behaviour impeding production are dealt with under a special procedure.

A principal innovation is the introduction, in all cases where it is practicable and desirable, of a system of payment by results. This provision is a notable one, for hitherto the operatives' Federation have resolutely set their faces against piecework, and this acceptance of a new principle must be read as a significant indication that all is not well with the production side of the war building effort.

From figures given by the Minister of Works, we know that the Government is carrying out a building programme estimated at £1,000,000 per day. The operatives available to execute this vast programme number 750,000—or 600,000 fewer than were in the industry pre-war. Included in this latter number serving in the Forces are many of the strongest and healthiest men—just that type of worker best fitted for the rigorous nature of much current constructional work—but Mr. Bevin, in reply to a specific question, has made it clear that there is no intention to draw on this reservoir of men. While we must respect his statement that one cannot constantly be reversing decisions, it is abundantly patent that the process of drafting operatives into the Forces has been carried too far. Had the Government accepted the repeatedly proffered advice of the leaders of the industry in the earliest days of the war to maintain a strong industry by developing a bold policy of shelter building and evacuation camp construction, the present shortage of labour would not have been felt.

To-day, therefore, the constructional programme must be carried out by the 750,000 available operatives, reinforced by another 50,000 men, principally labourers, and the new Order must be regarded purely as a spur to greater effort by the available pool of labour. Mr. Bevin believes that this pool is capable of doing the work, from which it follows that labour is not everywhere pulling its full weight.

Generally speaking, the men engaged in the building industry are as hard-working and patriotic as can be found in any trade. What, then, are the reasons for this loss in production? We believe them chiefly to be three in number:

(*a*) The infiltration of a comparatively unskilled type of labour replacing the younger, fitter men;

(*b*) The conditions under which many men—often not sufficiently robust—are working on remote sites and elsewhere, conditions which not only directly operate against full production but offer opportunities for spreading subversive influences to those malcontents and worse who are to be found in every industry.

(*c*) The inertia which inevitably arises from the operatives' first-hand knowledge that their efforts have often been negatived by avoidable mistakes in selection of sites and in planning and direction of jobs—a condition which is not lessened by awareness that there has been unwarrantable extravagance (to put it no higher) which has redounded to the profit of many but not to that of the operatives.

The situation outlined in (*a*) being, it seems, irremediable, a solution to the difficulties must be found elsewhere. Not the least important of these avenues is the amelioration of the living conditions noted in (*b*). Under some circumstances, operatives cannot expect to avoid hardship. They are just as much front-line troops as their "mates" in the Forces, as Lord Southwood's eloquent and sincere broadcast talk on Sunday last made amply clear. The men in the Forces cannot be fully armed unless factories and aerodromes are completed to schedule, and every operative is a competitor in the race against time. In other cases, however, much can be done by the use of forethought to improve the men's working conditions. The history of war construction to date shows that more time spent on planning jobs and proper mobilisation of labour would have meant less time spent on the site, and better buildings.

We urge, therefore, that the fullest use in future be made of the new Regulations for Welfare and Safety Provisions to ensure that proper living conditions, whether by billets or hutments, are prepared in advance of the arrival of men on the site, and, moreover, that active steps be taken to provide facilities for social recreation under the direct control of the welfare officer. To assume that the cinema, the billiards hall and the "pub" can alone meet the recreational needs is to make a profound mistake even where the sites are near towns. On outlying jobs the need is even more important. Chilly, cheerless and often damp living quarters without some degree of social amenity are not likely to offer an atmosphere conducive to the success of the publicity drive for increased effort which we understand is about to be launched.

Lastly comes consideration of increasing output by improving the efficiency of those branches—planning, direction and supply of materials—higher up the constructional scale. In our opinion, the Essential Works Order will fail to produce maximum results if it relies on injecting into the operative side the stimulant of piece work unsupported by a complete overhaul of the present systems of planning, site control and materials supply which equally must bear the blame for reduced output. The employment of the planning and constructional professions in the right places; the use of experienced agents on the site; removal of site control from the contractors' hands; simplification of the system of Controls which makes it difficult to obtain necessary materials speedily; and more intelligent use of locally produced materials to economise transport; all these factors require investigation and action.

The resolving of these delaying factors will do much to improve the production of the operatives, who have the additional inducement of Mr. Bevin's undertaking that if the men are determined to make a success of things, the benefits of a guaranteed week and holidays with pay will continue post-war. As for the present, the sense of fair-play that would come from improved cohesion and improved conditions will—when coupled with the knowledge that nothing less will serve their country in this vital hour than the full and willing use of every hour worked—enable the British building workers to show that in the matter of patriotism they stand second to none.

# NOTES AND NEWS

### Bomb Damage at St. Paul's.

A SURVEY of the damage to St. Paul's Cathedral as a result of enemy action has now been made, and it has been found that there is no serious disturbance to the fabric as a whole. According to Mr. W. Godfrey Allen, Surveyor to the fabric, considerable damage has been sustained, and the walls in places have been weakened and badly scarred, but the damage appears to be local. From investigations and instrumental tests recently carried out there is no indication that the general stability of the building has been affected.

Almost all the windows have gone, and a certain amount of damage has been caused to the reredos and to woodwork in various parts of the Cathedral. The Grinling Gibbons carving and the other carved features, most of which had been taken down and removed to safety, suffered only very minor injuries. The high altar has been destroyed, as well as the fine marble screen in the north transept, originally part of the organ screen, and serious damage has been caused to the organ. Two of the monuments in the north transept have been broken, but the Wellington monument, which was specially protected, has not been harmed. Measures to repair or secure the damaged parts of the building are in progress.

### L.C.C. Architect: New Appointment.

MR. F. R. HIORNS, F.R.I.B.A., the Architect to the London County Council and Superintending Architect of Metropolitan Buildings, will retire under the age limit on July 13 next. To fill the vacancy the Civil Defence and General Purposes Committee of the Council have decided to recommend the Council on July 1 to promote MR. J. H. FORSHAW, M.C., M.A., B.Arch., F.R.I.B.A., who is at present Deputy Architect. Mr. Forshaw will continue as at present to be in charge of the Rescue Service and the War Débris Disposal Service. The salary attaching to the position of Architect to the Council and Superintending Architect of Metropolitan Buildings is £2,500 a year, rising by £250 at the end of the first and third years to £3,000 a year.

Mr. Hiorns, who succeeded Mr. E. P. Wheeler, F.R.I.B.A., in April, 1939, has had the ill-luck to have his architectural work as Architect to the Council interrupted by the war. Previously, he had been responsible for much of the design, and was closely connected with Mr. Wheeler and Sir Giles Scott in the design of the new addition to County Hall. We wish him well in his years of leisure to come and extend our congratulations to his successor. Mr. Forshaw, for whom the new post of Deputy Architect was created two years ago, took with him to County Hall a great reputation as designer and administrator from the Architectural Department of the Miners' Welfare Commission. So far, he has had little opportunity to build, but it will be felt that the department's deserved reputation for design remains in good hands.

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ST. STEPHEN'S, WALBROOK,
as damaged in a recent raid. Perhaps the most perfect of Wren's City churches, it is believed to have served as a model for St. Paul's.

### The Birthday Honours.

IN the list of Birthday Honours conferred by the King appear the following: BARON: Rt. Hon. Sir Wilfrid Greene, Master of the Rolls (Chairman, National Buildings Record).—KNIGHT BACHELOR: Col. John Fisher (lately Director of Works, Air Ministry).—C.B.E.: Mr. P. Good (Deputy Director, British Standards Institution).—M.B.E.: Mr. J. Fernandes (consulting architect to the Government of Madras).

### Lord Southwood's Appeal to Operatives.

BROADCASTING on Sunday an appeal to building and constructional workers for increased output in factories and aerodromes, LORD SOUTHWOOD said that our own fate, and the fate of the whole world and the lives of generations to come, might well hang on the happenings of the next few months. "If the war has taught us one lesson," said his lordship, "it is that you cannot defeat overwhelming numbers of tanks and planes and guns and munitions with courage alone. To conquer the Nazi war machine we must create a machine of even greater power. We are fighting against great odds, and what we lack in man-power we must make up with armaments."

Behind the munitions workers were other workers—the builders of our new factories. There was no work more urgent and more important than theirs. "The tools of the operative's trade are weapons of war. On the use he makes of them depends in large measure the outcome of the conflict."

To win the battle, it was a race against time, and the builders were laying the very foundations of our mounting power. "Only too well do I realise," added Lord Southwood, "that many of you are working under conditions of great difficulty, and that there have been some delays for which you are not responsible. All credit therefore to those fine workers who have done and are doing their utmost. . . . Yours is a Number One job—you are in the very forefront of our war effort. On the swift completion of your work depends the work of so many others who are ready to follow on so that planes and tanks and bombs and shells and munitions of all kinds shall roll from our factories like an avalanche and crush the monstrous machine with which Hitler seeks to dominate the peoples of the world."

## *IN 1916.*

EXTRACT FROM *The Builder*, JUNE 16.

ACCORDING to a verse which appears in an evening contemporary, the Teddy-bear and other children's favourites claim exemption from military service for the "architect" of dolls' houses. One of our most distinguished architects was anxious to give his daughter elementary instruction in design *ab initio*, so he devised a doll's house according to architectural canons and had it made at considerable cost. But his daughter would have none of it and clamoured for the commercial article, with the result that her disappointed father came to the conclusion that mankind inherits not only original sin but original bad taste. . . . We should like the law of the land to prohibit the sale of any doll's house or any Noah's ark which had not been designed by a member of the profession, and we should further agitate for the punishment of all those who made such design for less than 5 per cent.!—*From a Note on "The Education of the Public."*

# THE AMERICAN PLANNING PROFESSIONS

## DIVISION OF RESPONSIBILITIES AND WORK

**Reference was made by Mr. James F. Howes, F.R.I.B.A., in our correspondence columns last week to a statement from various American professional institutions defining their proper spheres and limits, which appeared in the March issue of our contemporary *Pencil Points*. In view of the interest which attaches to this subject, we reprint the text below.**

DIVISION OF RESPONSIBILITIES AND WORK AMONG THE PLANNING PROFESSIONS OF ARCHITECTURE, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE AND MECHANICAL ENGINEERING ON NATIONAL DEFENCE HOUSING PROJECTS.

Every housing project built under the National Defence Programme should be functionally, if not physically, related to its neighbouring communities, and should promote the ultimate welfare of those communities. It should be properly integrated with them as to site and permanence of structure, and as to transportation, educational, recreational, sanitary and other facilities. The study of this integration is the normal function of the city planner.

Each project should provide adequate and appropriate shelters for those who are to occupy its dwellings, and adequate and appropriate spaces and facilities to ensure their normal health and well-being. The planning of such sites, facilities and shelters, and the supervision of their construction, have long been the responsibilities of architects, engineers and landscape architects in private practice, each performing his respective services on the project.

It is the opinion of the planning professions represented by their national societies—the American Institute of Architects, the American Society of Civil Engineers, the American Society of Landscape Architects, and the American Society of Mechanical Engineers—that their combined services are essential in respect to defence housing, and that, by the employment of their professions in collaboration, the greatest advantage will accrue to the Government.

This statement sets forth, to the extent practicable, the respective responsibilities of these four professions on any collaborative undertaking on national defence housing projects.

It is not the intention to preclude any collaborator from performing any of the services of the other collaborators if he is qualified or competent to do so, or if he normally performs such services by means of qualified and competent employees. Nor is it the intention that the divisions of responsibility and work as set out shall be inflexible; they should be used as guides for determining the proper divisions of work for a particular project, because the work to be done by each collaborator may differ in detail in the various projects.

The collaborative services may be performed under a single contract, or a joint contract, or under separate contracts with each of the collaborators. All such contracts shall recite and include this full statement of "Division of Responsibilities and Work," and state which of the collaborators is to be the co-ordinating authority and the extent of his authority. In housing projects, the architect normally should be the co-ordinating authority.

**Joint Responsibility of the Collaborators.**

The site having been determined, it shall be the joint responsibility of the collaborators to prepare and present to the employing governmental agency a report containing their preliminary estimates of costs and recommendations for the project, for its approval and acceptance.

The collaborative work and responsibility should cover the following fundamental features with respect to the site and the development of the project:—

(*a*) Determination of traffic circulation; arrangement, width and controlling grades of streets and alleys; railway trackage location.

(*b*) Determination of amount of land coverage, general locations of buildings, and general use of open areas.

(*c*) Determination of controlling grades on the open areas and the general elevations of proposed first [*i.e.*, ground.—ED.] and basement floors of buildings.

(*d*) Determination of general character of proposed landscape developments.

(*e*) Determination of general locations and types of utility and building services, street signs, fire hydrants, and project lighting (poles, light standards and conduits).

(*f*) Determination of general character and list of drawings and specifications, to eliminate duplication, and to produce efficiency and economy of design and construction.

**Individual Responsibilities and Duties of Each Collaborator.**

1. THE ARCHITECT—

(*a*) Shall design, prepare drawings and specifications for, and supervise construction of all housing units and buildings to be used for community purposes.

(*b*) Shall plan the architectural treatment of all other structures or parts thereof, except those specifically excluded by mutual agreement in advance among the collaborators.

(*c*) Shall direct the services of mechanical engineers engaged on the mechanical work in buildings.

(*d*) Shall direct the services of civil engineers where such services are required on structural and foundation problems of buildings and walls incident thereto.

2. THE CIVIL ENGINEER—

(*a*) Shall make surveys for, and prepare all property, topographic and public utility maps.

(*b*) Shall prepare plans for general grading and excavations for engineering developments unless otherwise mutually agreed upon among the collaborators.

(*c*) Shall design, prepare drawings and specifications for, and supervise the construction of domestic water supply systems, sewerage systems, storm drainage systems, yard lighting facilities, heating mains, gas mains, and electrical transmission lines outside of the buildings.

(*d*) Shall design, prepare drawings and specifications for, and supervise the construction of public streets and alleys and such private drives as are included by mutual agreement among the collaborators, including paving, sidewalks, curbs, culverts, retaining walls and bridges incident thereto.

(*e*) Shall design, prepare drawings and specifications for, and supervise construction of such foundations and structural parts of buildings and other structures as are, by reason of unusual conditions, not customarily designed by the architect.

(*f*) Shall set lines and grades for control of all work of the project other than for buildings.

3. THE LANDSCAPE ARCHITECT—

(*a*) Shall determine specific use and arrangement of land areas within the project based upon the general plan adopted for the project.

(*b*) Shall design, prepare drawings and specifications for, and supervise construction of lawns, interior walks and terraces, service areas, parking areas, fences, lawn irrigation and drainage, planting, pools, such other site surface improvements, and such private drives as are included by mutual agreement among the collaborators.

(*c*) Shall prepare grading plans and specifications for, and supervise construction on all areas under landscape development, unless otherwise mutually agreed upon among the collaborators.

(*d*) Shall design, prepare drawings and specifications for, and supervise construction of outdoor recreation areas, facilities and structures incident thereto, and all walls incident to the landscape development.

4. The mechanical engineer—

(*a*) Shall design, prepare drawings and specifications for, and supervise the construction of central heating and steam power plants, service utilities in the buildings, such as mechanical, electrical, heating, ventilating, air-conditioning, refrigerating, plumbing, gas and other services, and all facilities and equipment therefor.

[Signed by the President of each of the professional societies concerned.]

## COMING EVENTS

**Monday-Thursday, June 23-26.—Regent Street Polytechnic (School of Architecture, Surveying and Building).** Monday: Mr. W. T. Creswell on "The Economic Aspects of Post-War Reconstruction: The Architect and Engineer's Part in Post-War Reconstruction." Tuesday: Mr. W. F. B. Lovett on "Town Planning and Rehousing Problems Relating to Post-War Reconstruction: Practical Considerations in Rebuilding." Wednesday: Mr. C. W. Glover on "The Problem of Materials and Labour in Relation to Post-War Reconstruction: Reconstruction Opportunities for the Planner and Designer." Thursday: Mr. W. T. Creswell on "The Legal Aspects of Post-War Reconstruction: Emergency Legislation, Statutory Rules, Orders, and Regulations Affecting the Building Industry which have been issued since the outbreak of War." All meetings commence at 6.30 p.m.

**Tuesday, June 24.—Housing Centre.** Luncheon: Mr. Edward Newman on "The Middle-Class and Housing." 1 p.m.

**Tuesday, June 24.—Town Planning Institute.** General Meeting. Address by Lord Reith. At the Caxton Hall, Westminster, S.W.1. 3 p.m.

**Tuesday, June 24.—A.A.S.T.A.** An open meeting to discuss "The Defence of Working Conditions." The Small Conway Hall, Red Lion Square, W.C. 6.30 p.m.

**Thursday, June 26.—Institution of Structural Engineers.** Messrs. S. Bylander and H. Boddington, on "City of London Reconstruction: Collaboration between the Engineer and Architect." 6 p.m.

## CORRESPONDENCE

### A Royal Corps of Architects.

TO THE EDITOR OF *The Builder*.

SIR,—At the start of the war I suggested (see letter in *The Builder* of November 10, 1939, entitled "The Future of Architects") that architects should be mobilised and have a separate organisation or corps in His Majesty's Forces. The recent militia camp inquiry, with intense military confusion, seems to reinforce this idea. Other professions are properly recognised in the Army. The medical profession is strongly entrenched in the Royal Army Medical Corps. The dentists have the Royal Army Dental Corps, and the teachers the Royal Educational Corps. Every profession is represented except the architects, who are supposed to submerge their identity in the Royal Engineers.

The Army Council should immediately

form a Royal Corps of Architects with the President of the Royal Institute of British Architects as Major-General in charge. This is essential in view of the amount of work to be done, and would give the necessary precedence to the profession, which has been content to play second fiddle long enough. The engineers will pick our brains all right but take all the credit themselves.

The Royal Corps of Architects would be wholly responsible for military buildings and so relieve the Royal Engineers for more important duties elsewhere. The building knowledge of the average Regular R.E. officer is very elementary, and he cannot be expected to have the experience of a fully qualified architect who has spent a lifetime at the job. He has other duties to carry out, but large-scale building should not be one of them. He may be all right in constructing field works, blowing up bridges, etc., but hopeless when it comes to designing and supervising the construction of a complicated building. This is where the architect should come in with his specialised knowledge, and there are some of our profession already helping in this way, but it is doubtful if any of the really senior posts are occupied by architects.

The R.I.B.A. and its Allied Societies has a membership of over 20,000, and it should be possible to form the new corps. This would tend to unify the profession, with advantage to the whole building trade. It would also make them more readily mobile for the strenuous tasks ahead. Let this potent fact be hammered into the heads of Government Departments, that architects are skilled builders and that no other can take their place. In any future scheme of reconstruction they are indispensable no less to the Army than to the civil population. Others may have views in the matter, and this letter only contains the bare bones of the idea, but it certainly seems in the light of recent events that the matter is now one for speedy decision and action. Masterly inactivity cannot be tolerated.

J. E. RHIND, A.R.I.B.A.

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# WAR-TIME BUILDING PRACTICE

## By R. Cotterell Butler, A.R.I.B.A

## 55—STANDARDISATION—WAR-TIME AND POST-WAR REHOUSING

### THE IMPORTANCE OF A LONG-TERM ATTITUDE.

In the latter stages of, and immediately after the war, rehousing may be largely carried out under the stress of urgency, and material and financial limitations. *The danger of allowing such considerations materially to affect important decisions on amenity would be very considerable. The undesirability from all points of view of constructing dwellings (which might have an expected life of anything up to 100 years) under the influence of transitionary economic factors is so serious that it could virtually amount to a national disaster.*

Too much time cannot, therefore, be spent in ensuring that, while reconstruction projects are under consideration, both material and psychological factors shall be exhaustively investigated, for unless measures could be taken compulsorily to ensure the destruction and replacement of all property failing to conform to certain minimum standards, at a date, say, 10 years after the war, the existence of inadequate amenity in many districts could be directly traced to the present crisis.

### PLANNING FOR SUBSEQUENT EXTENSION.

To overcome the essential difficulty of the urgency and economy necessary at the moment, yet to avoid the error of flooding the country with accommodation which would be considered insufficient after national conditions had recovered from the war, the principle of designing dwellings for subsequent extension has many advantages. Under such circumstances, it would be possible to provide nuclei (backed up by communal service buildings) which would as soon as possible be extended to conform to non-emergency standards. Similarly the communal service structures necessary should in no way be merely temporary elements destined for subsequent demolition but might themselves be evolved for use ultimately as entertainment or other communal purposes.

### MINIMUM AMENITY.

In order that the best possible advantage be taken of the extensive rehousing which must become necessary, it is obvious that minimum standards of amenity should be set up. This has already been referred to in connection with standards generally.

The general problem of providing living and sleeping accommodation with maximum economy must necessarily depend to a large extent upon personal opinions of what constitutes adequate amenity. While, with regard to structural considerations, architecture closely approaches an exact science, planning problems cannot be fully determined by purely scientific methods. Certain parts of a dwelling—kitchens, bathrooms and other sanitary accommodation, and staircases—may of course be determined reasonably exactly from an analysis of the operations to be carried out in them, while by carefully analysing the actions of a given family, it is possible to determine how their leisure hours are spent, and arrive at some figure for a minimum living-room. Similarly by observing large numbers of existing dwellings in use, it is possible to develop a general opinion of the amount of accommodation being employed. But, since it is obviously *possible* for an entire family of six people to eat, read, listen to the radio, sew, and more or less behave normally in a room 10 ft. by 10 ft., or—from experience of slum conditions—in even less space, opinions of absolute minima cannot be verified scientifically.

In the same way, it may be demonstrated that an average adult cannot sleep comfortably in a bed much smaller than 6 ft. 6 ins., by 27 ins., but it would be impossible to argue that a room large enough to hold a bed, a wardrobe of clothes, and provide sufficient dressing space, was either a minimum or not. It might, for instance, be suggested that such a room was wasteful—since clothes could be stored elsewhere—or equally, that the room was below a satisfactory minimum on the grounds that psychologically it would tend to induce claustrophobia.

This last point is really indicative of the crux of the whole problem. The accommodation provided for, say, food preparation may be almost entirely determined on the grounds of utility, since a kitchen enabling work to be carried out conveniently and without discomfort is likely to be psychologically acceptable—entirely independent of the actual cubic space, since it is assumed that ventilation and lighting requirements are determined upon the basis of the work to be carried out.

With regard to a living-room, however, it cannot be guaranteed that it will be automatically acceptable psychologically because it provides adequate lighting for reading, sufficient ventilation, and warmth, and enough space for a comfortable chair. The acceptability or otherwise of such accommodation will be largely governed by the condition of mind of the occupant.

An ancillary consideration is that little margin for variability need be provided for in the case of the kitchen, while a living-room may be called upon to provide accommodation for an overload of visitors of 500 per cent. or more.

Thus we cannot entirely determine an acceptable minimum living-room, purely upon utilitarian grounds. Economic considerations play a most important part in determining a person's conception of acceptable environment. With few exceptions the conventional standard of amenity are wholly determined by use. That is to say, a person unfamiliar with 20 by 25 ft. living-rooms, who has from birth become accustomed to life in what might be called a congested environment, might consider a room of 10 by 12 ft. almost palatial. Conversely, a person accustomed to higher standards would feel claustrophobic in a room of such size.

### CO-OPERATION IN DESIGN.

The evolution of satisfactory minima for the purely utilitarian parts of dwellings may safely be left to the architect and technician but, for a fully satisfactory solution to the housing problem as a whole, it is essential that the architect should receive the co-operation of welfare workers

and professional psychologists, as well as representative non-professional minds.

Only by purely objective and disinterested co-operation on as wide a basis as possible can we avoid the disastrous potentialities of large-scale reconstruction too greatly influenced by war-time and immediate post-war problems and conditions of mind. Naturally, the suggestions outlined in this and later articles should not be taken as more than technical aspects of the problem—aspects upon which a much wider examination of the question might be based.

## REHOUSING REQUIREMENTS.

The extent and scope of rehousing will largely depend upon the breadth of vision of such official organisations as may be responsible for its administration. As a town-planning issue, it is obvious that the result of the mere individual replacement of demolished buildings would be the result of an exceedingly narrow outlook. The large-scale demolition which has occurred has provided considerable grounds for reconsideration of the desirability of retaining many other structures—as yet undemolished.

In the interests of maximum efficiency, and hence the provision of the greatest possible amenity within any economic framework, as much co-ordination and standardisation as possible should be effected. Nevertheless, just as it is desirable that minima adopted should result from an intelligent assessment of requirements, in the same way sufficient provision for variation should be made.

Any outline for large-scale rehousing should certainly include the following :—

Family Size.—Accommodation for single persons. Accommodation for families without children. Accommodation for families with a single child. Accommodation for families with up to three children, and families with more than three children.

Locality.—Alternative arrangements should allow for the above family requirements in both urban and rural localities.

Orientation.—Co-ordination between town planning developments and the design of structures to ensure that both houses and other buildings should be appropriate to their orientation, and that the orientation selected should be suitable for housing.

Use.—Suitable types for special purposes such as those having to co-ordinate with occupational requirements.

Income Group.—Even with a population the vast part of which belonged to a similar income group, the expenditure of income as between one family and another would vary (small house—large car, large house—small car, etc).. and provision for a certain amount of variation should be allowed.

## ECONOMY IN COMMUNAL SERVICES AND FACILITIES.

Looked at narrowly, the obvious solution to the problem of providing extensive living accommodation with the maximum of economy would be to exploit to the full the economic potentialities of communal services. Basically, the individual dwelling complete in itself is costly and inefficient compared with schemes based upon the concentration of certain essential services.

At the two extremes lie the totally detached domestic house scheme * and the hostel. It requires little imagination to appreciate the enormous economic advantages of combining—in a large community—all heating, cooking and sanitation facilities. The issue between these two diametrically opposed principles is not, however, a technical one but political, social and psychological.

It is not proposed to discuss in detail the implications of a decision to adopt a more communal form of life than practised in this country at present, but the primary considerations involved demand some attention.

The demand (presumably based upon liking) for a personal and individual dwelling is essentially part of the national character. Whether this is fundamentally good or bad for the welfare of the nation as a whole is, perhaps, debatable. Superficially, it certainly expresses a frequent lack of social co-ordination which has little to its credit except resistance to social development.

* Detached more than in name alone, not virtually in connection with adjoining property.

Urban life must necessarily be gregarious, and for all practical purposes the development on a large scale of isolated dwellings in towns is impossible. Therefore, the issue between *flat* and *house* may, with one exception, be regarded as a technical one. The exception is, of course, the possession of an individual garden directly linked with the living-rooms of the house.

Neglecting economic factors, it is quite possible for children to live in flats, as individually separated from neighbours as in houses, since problems of insulation are largely solved technically and not more airborne sound (through windows) need occur with flats than terrace houses or most semi-detached ones. Two opposing factors may be expected to determine the question; high concentrations of people cannot be arranged quite as readily by means of houses as with flats,† and a tendency for towns to develop along vertical as opposed to horizontal lines will occur. Nevertheless, there is always likely to be a considerable desire for a personal garden, and this factor must be considered.

Therefore, while it might be economically practicable to provide increased local amenity by rehousing in flats and tenements, nevertheless, it can hardly be universally justified on wider grounds.

## TERRACE HOUSING : HORIZONTAL DEVELOPMENT.

On the basis of this very condensed outline of the position, it may be assumed that a demand for rehousing in the form of *houses* will certainly occur and that, moreover, it will have much to justify it.

It would seem that the solution to the whole problem lies largely in the provision of wholly communal accommodation for certain sections of the population (not determined by income-group factors), and housing (meaning dwellings with individual gardens) for others. There would seem little reason (except prejudice) why terrace-house development should not be revived. Given intelligent terracing, many of the advantages of both communal buildings and individual ones, could be obtained.

These may be outlined as follows :—

1. Terrace houses could be linked with heating, lighting and sanitation services much more economically than separately-owned and partly-detached dwellings. The economy of grouped servicing might not approach that of a vertically planned centre, but would be workable.

2. Communal facilities such as swimming-pools, shops, crêches, libraries, etc., could as well be linked with terrace blocks as flats.

3. Structural savings would be made as against detached dwellings.

4. By individual gardens, free plan continuity between living-room and garden would be possible—a factor which should have a salutary effect upon the lives of the people.

5. Suitable planning could develop the communal life principle in a block of terrace houses, even more than in flats, and the petty individuality complex so universally found in suburban areas would be largely counteracted by the structural unity of the group.

## DETAIL PLANNING.

Apart from the general factors involved, there are, of course, those detail considerations which arise in connection with the actual planning of the structures. These must be approached from an analysis of the living, sleeping, cooking and eating and hygiene requirements of the family groups outlined. On the whole, little modification (apart from structural considerations) from the best pre-war practice need be anticipated since, as has already been pointed out, development too much influenced by current eccentricities (unless absolutely temporary) would be undesirable.

In a further article these detail considerations will be discussed and typical solutions to the rehousing problem based upon the use of both grouped and individual structures, will be considered.

*(To be continued.)*

† This is generally true, although investigation in recent years seems to have shown that *to provide equivalent natural sunlight and space*, a flat system, even though unlimited in vertical projection, does not occupy vastly less ground than parallel housing development. The difference between vertical development *disregarding sunshine and shadow factors* and housing is, of course, quite a different matter. In any case, very definite limits to vertical projection do occur, since it is the *time* taken to travel between two points which is important, not so much their distance apart. Vertical travel can—beyond certain heights—become very slow; Sir Raymond Unwin when in New York gave an amusing illustration of the time taken to visit a family on the other side of the street, 27 floors down and 47 floors up.

# ESSENTIAL WAR BUILDING

## ESSENTIAL WORK ORDER FOR THE BUILDING AND CIVIL ENGINEERING INDUSTRIES.

On June 9 the Essential Work (Building and Civil Engineering) Order, 1941, was signed. The new Order* has as object the securing of the necessary labour to speed up the building of vital aerodromes, factories and other constructional works of war importance. The Order mainly follows the lines of other Essential Works Orders, but there are some notable innovations.

The main provisions of the Order are that, when an undertaking is scheduled :—

(a) the right of the employer to discharge a worker, and of the worker to leave, is strictly controlled, and is, in general, subject to the permission of a National Service Officer and to at least one week's notice;

(b) a guarantee of a certain minimum time-rate of wages is given, subject to conditions laid down in the Order;

(c) cases of alleged absenteeism, unpunctuality, failure to comply with lawful orders and behaviour impeding production are dealt with under a special procedure.

One of the innovations is that not only a particular undertaking but a building " site " (and all or any of the undertakings engaged on it) can be scheduled under the Order. Another is that scheduling can be limited, if necessary, to specified classes and descriptions of persons employed by the undertakings scheduled. As with other Orders, it is an essential of scheduling that there shall be satisfactory conditions of employment and welfare in the undertakings or on the sites scheduled.

A further pre-requisite of scheduling laid down in the Orders is that arrangements should be made, in all cases where it is practicable and desirable, for a system of payment by results. The wording of the Order allows full elasticity as to the method of applying the principle, and would cover a wide range of variations including a system of bonus on output. Scheduling in the building and civil engineering industries will begin with a few large contracts of special importance. It is hoped that it can be extended quickly to other parts of the Government building programme.

Another provision of the Order is for the enrolment of building volunteers, who in return for special privileges will be ready at once to go to work wherever in Britain they are most needed. It is hoped to raise a large body of picked workers for this purpose. A further announcement will be made in due course.

### Statements by the Ministers of Labour and Works.

Mr. Ernest Bevin, Minister of Labour and National Service, explaining the provisions of the Order, said that it was well known that the full productivity of the war effort was dependent to a large extent on the expediting of certain buildings and civil engineering works in the country. The effort on airfields and on War Office and Admiralty construction must be speeded up; there was not time to stop and argue with anybody.

For the first time there had been introduced for the building trade a guaranteed week, and it was for those in the trade not to spoil it. As long as he could remember they had been trying to get paid for time lost owing to climatic conditions, and he was quite certain that if the men were determined to make the scheme a success the new arrangements would become a permanent feature of the industry.

With regard to payment by results, the situation was such that the method should be adopted as an incentive wherever it was desirable and practicable. The civil engineering side of the industry had always had payment by results to a limited extent, and the system was to be extended. There would be facilities at the site for union and management to meet and settle any difficulties that arose. There had been a lot of Sunday work, but both sides of the industry were anxious to stop it. It was noteworthy that where a six-day week was worked absenteeism was very limited. Workers would receive not less than normal wages for a 44-hour working week with ordinary time rates for overtime rates other than on Sunday.

Referring to the establishment of a mobile force, which would be exempt from military service, Mr. Bevin said that this had been fixed at 100,000 workers. Such a force was essential for the repair of damaged buildings, works, or airfields. Every eight weeks they would be given return tickets so that they could visit their families. He thought the men in the industry would have to be supplemented by about 50,000, mainly labourers, for the most serious shortage at the moment was of semi-skilled men.

In conclusion, the Minister made clear that there was no fear that speeding-up of work would mean unemployment when a particular job was done. The building work ahead, now and after the war, could not be exhausted.

In reply to specific questions, Mr. Bevin stated that there was no intention of releasing any of the 600,000 operatives now in the Services. He thought that the programme could be carried out by the present number.

Lord Reith, Minister of Works, said that the object of the scheme was to get through a Government building programme of about £1,000,000 a day. The rigours of civil licensing would be increased in order to concentrate energies on essential building. On the subject of standards of work, some Departments were more insistent than others on maintaining high standards. Lord Reith said that nothing that was not necessary could be permitted. Standards had been reduced and would be reduced still farther, but care would be taken that the work did not suffer on that account.

The Minister stated that attention was being paid to the grouping of builders, especially the smaller ones, to make them useful as a force. He added :

" Before the war the strength of the building industry was about 1,350,000. To-day it is about 750,000. Many of the strongest workers being of military age are in the Services, so there is a decrease in output per man-hour; and of course there has been wastage through other causes, normal and otherwise. Included in the building programme are ordnance and munition and other war factories, aerodromes, defence works, emergency hospitals, hostels, repairs to factories and houses, and essential services. *It is all important and all urgent.* The country has reason to be grateful to the building and engineering industries, but it asks for more still."

* H.M. Stationery Office, 4d. net.

# OBITUARY

### Mr. Henry Seaver, F.R.I.A.I.

We regret to announce the death of Mr. Henry Seaver, F.R.I.A.I., a well-known Belfast architect. He was a member of the Senate of Queen's University, and a Governor of the Royal Belfast Academical Institution.

### Mr. G. C. Drinkwater.

Mr. George Carr Drinkwater, R.B.A., who has lost his life through enemy action at the age of 60, was an architect and artist by profession, but was better known as a rowing coach and a writer on rowing. Educated at Rugby and Wadham College, Oxford, he rowed in the Oxford crews of 1902 and 1903.

### Mr. D. C. Cameron, L.R.I.B.A.

We regret to record the death, in London, as the result of enemy action, of Mr. Duncan Chisholm Cameron.

### Mr. P. V. Seward, L.R.I.B.A.

By the death of Mr. Percy Victor Seward, L.R.I.B.A., at the early age of 43, Bournemouth has lost a leading architect who was associated with the design and construction of a number of prominent local buildings. He was secretary of the Bournemouth Chapter of Architects.

# COMPENSATION AND BETTERMENT

## SECOND MEMORANDUM BY CHARTERED SURVEYORS' INSTITUTION.

The Chartered Surveyors' Institution have now submitted the Second Memorandum of Evidence on Post-War Reconstruction in response to a formal invitation received from the Expert Committee on Compensation and Betterment appointed by the Minister of Works and Buildings. Following is a summary of recommendations :—

(1) Without specific knowledge as to the type of problem to which the scheme is to be applied, it is considered that the proposal in the Barlow Report for the purchase by the State of development rights in undeveloped land may, subject to five specific safeguards, prove to be in the general interests of the country, and ultimately of landowners, regarded as a body, though there will be individual exceptions. It should be made plain that the purpose of the scheme is the control of future development. (Paragraphs 2, 3 and 4.)

(2) Among the safeguards are the inclusion of powers to revise, in the event of a misjudged estimate, the original global sum at which the rights are to be purchased, to secure an equitable apportionment of the global sum among individual owners and the right of appeal against the apportionment. (Paragraphs 2, 3 and 4.)

The reasons for proposing these safeguards arises from the inherent difficulties and possible unfairnesses of employing the global method of valuation for the purchase of development rights. These difficulties are fully discussed in the printed Memorandum by the Council of the Institution on the Purchase by the State of Development Rights in Undeveloped Land,* particularly in paragraphs 6, 8, 27, 28, 29, 30, and 33.

(3) The present basis on which compensation is assessed for the compulsory acquisition of land is equitable, and should remain. (Paragraphs 5 to 8.)

(4) As regards undeveloped land, the question of betterment would be solved if development rights were acquired on the lines of the scheme propounded in paragraphs 251 to 256 of the Barlow Report. (Paragraph 17.)

(5) As regards developed land, the question of betterment might be solved by the delimitation of " betterment areas " on the fringe of areas to be reconstructed or improved; by a valuation of property in the betterment area before and after the improvement; and by a wider application of the principle of recoupment, with extended powers for the purchase, holding and disposal of land by the reconstruction or redevelopment authority. (Paragraphs 9 to 18.)

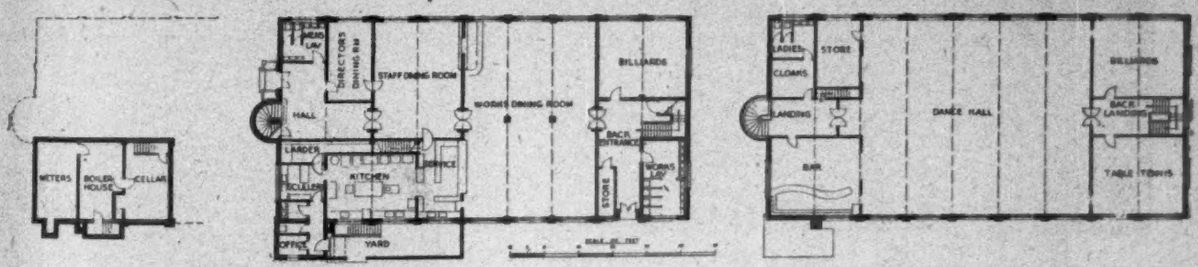
(6) Land values cannot be directly stabilised or controlled; in devastated areas values can, and should, be controlled indirectly by the declaration of " reconstruction areas." Outside devastated areas, control of values is only possible by the compulsory purchase of development rights. (Paragraph 19.)

(7) As regards the pooling of ownerships, it is not thought that the Lex Adickes principle, which has only been applied to undeveloped land, would be practicable in this country; a simpler method would be for a judicious mixture of co-operation and compulsion to be used, power being given to the authority, in cases where a number of small ownerships interfered with rational redevelopment, to purchase compulsorily and to resell or relet to developers. Owners, however, who are willing to co-operate in a redevelopment scheme should be encouraged, and the power of purchase should be used only to overcome obstruction or indifference. (Paragraph 20.)

(8) The powers of the reconstruction authority should be broadly based, and should be exercisable over a wide area in order that the best advice and the best results may be obtained. (Paragraph 21.)

* Journal of Chartered Surveyors' Institution, March, 1941, page 571 *The Builder*, May 30, page 527.

VIEW OF ENTRANCE FRONT.




PLANS.

# WORKS CANTEEN IN SOUTHERN ENGLAND

MR. RAGLAN SQUIRE, A.R.I.B.A., ARCHITECT.

*Right* : VIEW FROM CAR-PARK.

THE HALL, LOOKING TOWARDS STAIRCASE.

TABLE TENNIS ROOM.

VIEW FROM KITCHEN TOWARDS SERVICE.

## WORKS CANTEEN IN SOUTHERN ENGLAND. MR. RAGLAN SQUIRE, A.R.I.B.A., ARCHITECT.

THE SITE OF THIS CANTEEN IS AT THE EAST end of the factory, adjacent to the main road. It is perfectly level, and there were no particular limitations to planning, except that the ground area to be covered was to be as little as possible, as the remainder was required for a car-park.

PLAN.—The working of the building called for three distinct entrances: (1) a staff and directors' entrance to their own dining-rooms, approached from the east side; (2) a workers' entrance approached from the factory side; and (3) a goods entrance away from the road. The building had to perform two distinct functions: (a) to serve as a general canteen for the factory with amenities for billiards, table-tennis, etc., which were to be open at all times; and (b) a dance-hall and bar which were to be open only on special occasions. The dance-hall and bar were therefore placed on the first floor, so that when not in use they can be completely shut off.

CONSTRUCTION.—Construction is of brick-bearing walls throughout, 14 in. externally and 9 in. internally, with 4½-in. brick partition walls. Precast reinforced concrete beams spanned between walls at 13-ft. centres, or steel joists where wider spans are required. The roof is supported by light steel trusses.

EXTERNAL FINISHES.—The walls are finished with Hunziger facing bricks, pickings from three shades being used; the principal shade is buff with a certain proportion of two different shades of light grey. The roof is covered with "Trafford" asbestos tiles, dark green in colour. Metal windows are painted green.

INTERNAL FINISHES.—Plaster and painting have been practically entirely eliminated throughout. Hunziger bricks have been used everywhere inside, and special coloured bricks for the various rooms are left as a facing. These colours have been chosen to suit the particular rooms as far as possible. For instance, in the billiards-room a buff-coloured brick has been principally employed with green pickings round the windows and radiator recesses; the works dining-room is in buff with terra-cotta coloured pickings, and the staff dining-room has a pinkish coloured brick as frieze with cork wall finish below. The walls of the kitchen premises were tiled in white glazed tiles throughout. The floor finish throughout is wood-block, except in the dance-hall, where maple strip has been used.

The curtains over the windows in the dance-hall reach down to the ground and are in gold damask. The curtains to the stage are in three shades of buff and grey velour. All colour in the dance-hall is obtained by coloured lighting in ceiling troughs. All other finishes, therefore, had to be in neutral shades.

SERVICES.—The building is centrally heated throughout with low-pressure hot-water system run from a calorifier in basement from the factory main boiler-house. The water supply also comes from this calorifier. Kitchen equipment is run off gas or steam, and there is a hand-operated lift which connects the kitchen with the dance-hall bar on the first floor, and similarly the cellar with the bar. A ventilation system is installed in the dance-hall.

Building cost figures cannot be accurately compiled owing to the fact that the building was partially erected by the factory's own staff. Sub-contractors and suppliers engaged are on page 599.

THE DANCE HALL.

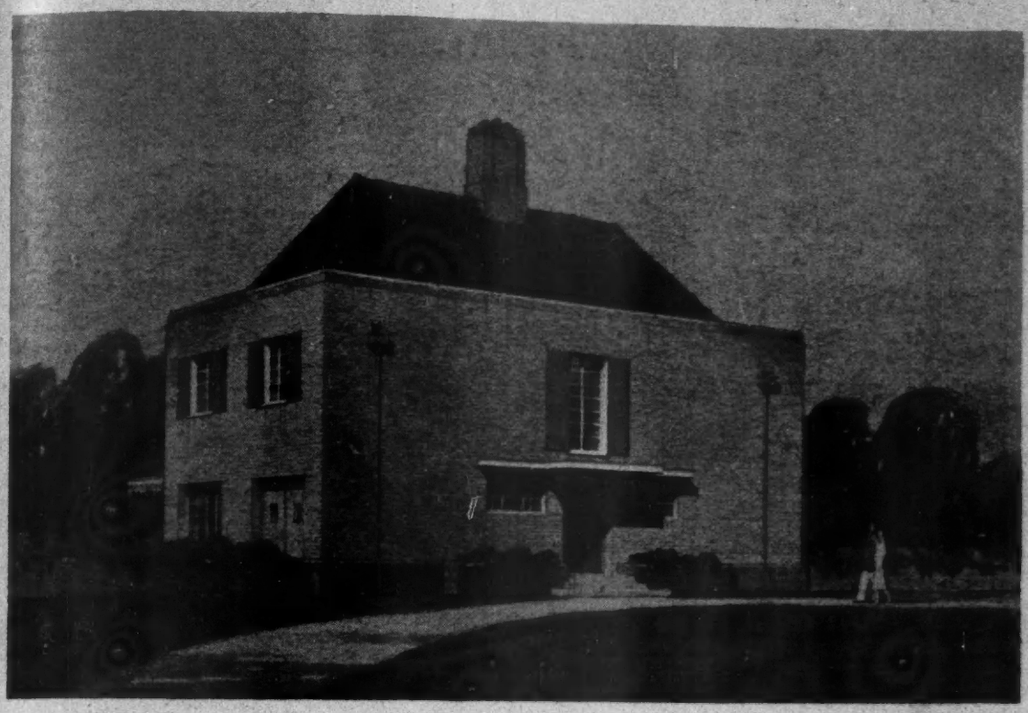
BAR ATTACHED TO DANCE HALL.

WORKS CANTEEN IN SOUTHERN ENGLAND. MR. RAGLAN SQUIRE, A.R.I.B.A., ARCHITECT.

THE WORKS DINING ROOM.

THE STAFF DINING ROOM.

WORKS CANTEEN IN SOUTHERN ENGLAND. MR. RAGLAN SQUIRE, A.R.I.B.A., ARCHITECT.

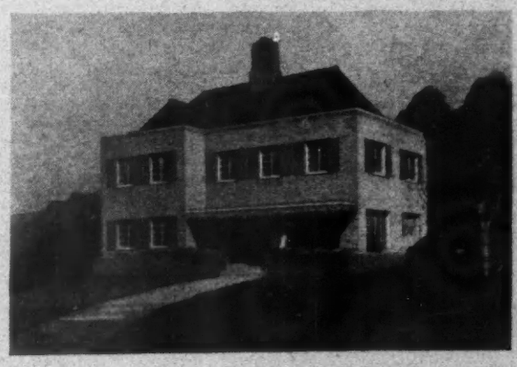


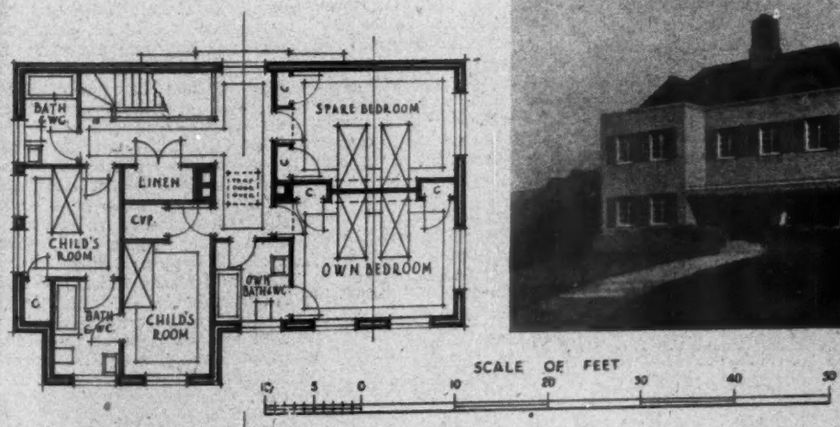
ENTRANCE FRONT. *Below* : PLANS AND GARDEN FRONT.

# DESIGN FOR A HOUSE

## MR. OLIVER LAW, F.R.I.B.A., ARCHITECT

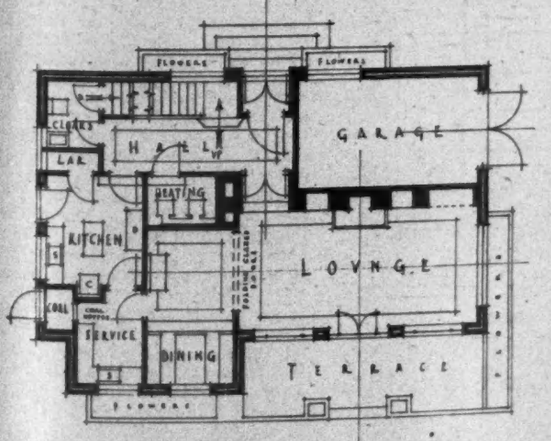
THIS HOUSE HAS BEEN DESIGNED BY MR. OLIVER LAW, F.R.I.B.A., as a possible solution to the problem of the post war middle-class house. A basement is included which in peace time would be used for storage, and could, in time of need, be converted into an air-raid shelter. Another feature is the heating chamber in the centre of the house, containing two gas-fired boilers. The house would be brick-built, silver-grey facings being used with darker pantiles. The perspectives reproduced (by Mr. Cyril Farey) are in the Royal Academy Exhibition, and form the subject of an article in the series "Planning for the Future," now appearing in the "Ideal Home" magazine.

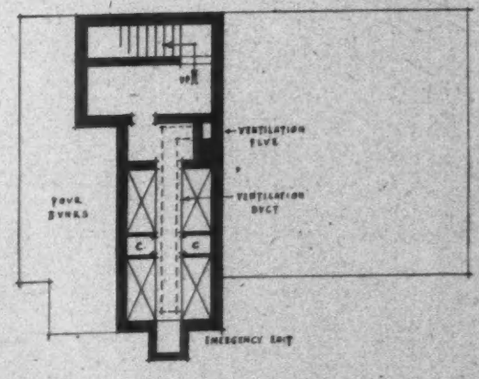










# THE ARCHITECTURAL ASSOCIATION

## "SAFE HOMES INSTEAD OF SAFE SHELTERS."

A SPECIAL meeting of the Architectural Association was held at 36, Bedford-square, W.C.1, on Tuesday, May 6, when MR. O. N. ARUP delivered an address, the theme of which was that it was practicable and economical to erect buildings in reinforced concrete which would be strong enough to provide shelter against attack from the air, would serve at the same time as suitable living accommodation for war workers, and when peace came could be converted into comfortable homes. The lecture was illustrated with lantern slides.

MR. ARTHUR W. KENYON (President) was in the chair and introduced the lecturer to the meeting, saying that Mr. Arup was an engineer who collaborated with architects.

The lecturer said that, generally speaking, buildings served the purpose of keeping out the weather. During war time, however, we also needed buildings to keep out the effects of high explosives and incendiary bombs. These buildings, called air raid shelters, had to be very strong to serve their purpose. They were therefore expensive, and to save cost were cut down in size to the bare minimum required to provide temporary accommodation for the people sheltering. Although it had been found necessary to make them serve as emergency sleeping quarters they could not be used as workshops or dwellings. They formed an addition to the normal buildings, but did not replace them. It would be much better if the normal buildings could at the same time act as air raid shelters. Unfortunately, this was not possible in the case of existing buildings, and we must find out what could be done with new construction.

### Measuring Protection Against Raids.

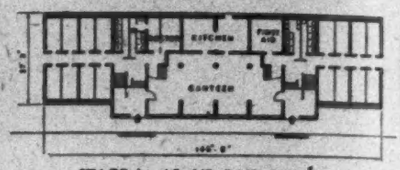
To do this we must determine what protection against air raids involved, and we must first find some means of measuring this protection, at least approximately. Just as we could not deal adequately with heat insulation without being able to measure the thermal coefficient of various materials, so we must in this case get to know something about the relative importance of the various factors affecting the safety of an air raid shelter. The purpose of an air raid shelter was to reduce the risk of casualties during an air raid. If the shelter suffered a direct hit we might fail to reduce the number of actual casualties, but except in this unlucky event, the shelter should provide a valuable measure of protection. The probability of a person being killed inside the shelter was inversely proportionate to the safety value of the shelter. Suppose this probability to be halved, then the shelter was twice as safe, and this probability depended on two factors. First was what might be called the density of the bombing, *i.e.*, the number and type of bombs dropped. The other factor was the physical properties of the shelter. The number of people in the shelter did not affect its safety. An individual's chance of survival was not affected by someone else coming into the same shelter. A crowded shelter was uncomfortable, but not less safe.

Mr. Arup developed these points by means of mathematical formulæ and diagrams. It would be a complicated and difficult matter, he said, to determine the vulnerability of a shelter with any degree of accuracy. We could, however, fairly easily get an idea of the relative importance of the various factors affecting it, and this would help us find out what to aim at in shelter construction. For instance, we could easily see that it paid much better to spend money on wall construction than on roof protection. Take the case of a man in the open who might be killed by a bomb of a certain type falling anywhere within a radius of 50 yards. If we protected him with a circular wall the radius of which was 10 yards, then, unless the bomb fell into the shelter, the man was protected for the rest of the 50 yards. A roof would protect him from bombs falling into the shelter, but the area for which it gave protection would be much smaller than that for which the wall gave protection. When it was remembered that it was very expensive to make the roof proof against a direct hit from any type of bomb except incendiaries, it would be seen that normally it was not worth while attempting to make the roof safe against anything except splinters and incendiaries. The shelters of which he was speaking relied on their walls for protection, and he called them "Wall Shelters."

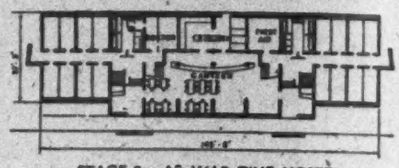
It would be seen that it was impossible to give a high degree of safety in very large wall shelters, but such a degree of safety could be provided in buildings divided up into fairly small rooms, because then each room or cell could be considered as a wall shelter of limited area. Factories and workshops, however, required large rooms, and in the case of offices, partitions were not usually made of solid construction because it was not convenient to be restricted to a definite lay-out. So here also rooms were large. In effect, the idea of protecting work places had nearly always to be given up, and we had to confine ourselves to housing. Here small rooms were required.

### Wall Strength and Blast Effect.

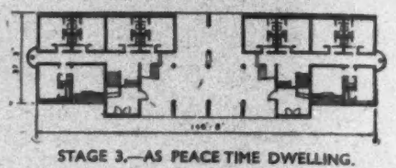
Coming to the question of the strength of the walls it was necessary to understand what kind of forces these walls were required to withstand. Blast was a force that acted in the main at right angles to the wall, and to withstand such a force a gravity structure was not suitable. What was needed was flexural strength aided by adequate support for the wall panels. For this reason brickwork or concrete block construction was not a suitable material for shelter walls. The obvious material was reinforced concrete. A cantilevered brick wall would not have much resistance against horizontal forces because of its lack of cohesion and because the whole wall could be easily toppled over. It would be better if the wall was supported top and bottom, but even then the wall would be subject to bending moments which it would only be able to resist so far as its low tensile strength allowed. If a brick wall was used it should be supported by frequent buttresses or cross walls.



STAGE 1.—AS AIR RAID SHELTER.



STAGE 2.—AS WAR TIME HOSTEL.



STAGE 3.—AS PEACE TIME DWELLING.

PLANS OF 1 AND 2 ROOM-TYPE FLATS.

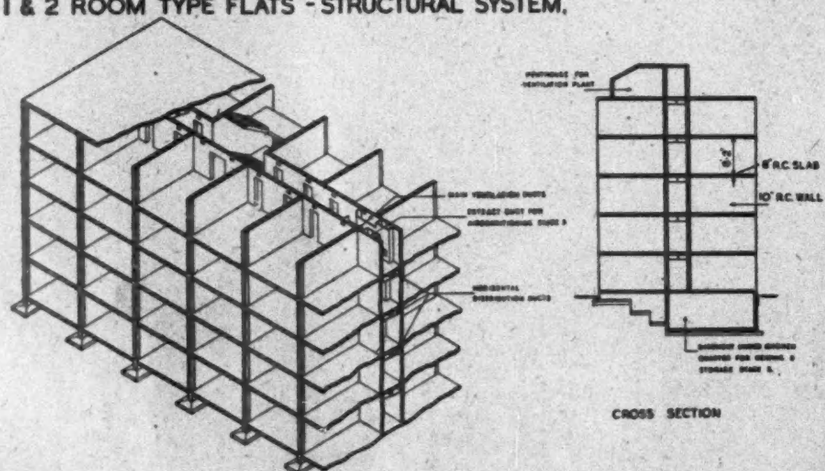
A reinforced concrete wall, on the other hand, could take tensile stresses and could be constructed either as a cantilever wall or, better, as a wall freely supported top and bottom, or best of all, as a wall continuous and fixed top and bottom. This box-construction was eight times as strong as a cantilever and twice as strong as a simple supported panel. It was the right type of construction if we wanted a strong shelter.

Apart from the strength of the wall panel we must also look into the stability of the structure as a whole, and here again box-construction was far superior to any other. For instance, a construction consisting of two brick walls with a flat concrete slab was obviously not stable when subjected to strong horizontal forces, but in the case of the box-construction the horizontal forces were resisted by the corner moments in conjunction with the reactions at the bottom, or, alternatively, they were transferred through the roof slab to any end walls in the construction.

There were other methods of construction, *e.g.*, pre-cast reinforced concrete sections, reinforced brickwork, steel and earth filling or virgin soil, together with various combinations of these materials; but none of these showed such a favourable ratio between strength and cost as reinforced concrete cast in situ. This type of construction, however, was economical and speedy only if the job was not too small, and if the design was simple and allowed frequent re-use of shuttering. A misunderstanding as to the effect of dispersal had caused it to be thought unsafe to group small shelter boxes into large units; but a person sitting in a compartment of a group shelter was actually somewhat safer than if sitting in an isolated shelter of the same size and strength, because the additional walls of the adjoining shelter afforded him extra protection against a large bomb falling some distance away. Further, the economies obtained by building larger shelter groups might be used to provide a higher standard of protection.

In order to set a definite standard of protection against high explosive bombs two

## 1 & 2 ROOM TYPE FLATS - STRUCTURAL SYSTEM.




CROSS SECTION

BY MR. C. SJOSTROM, A.R.I.B.A., ARCHITECT, AND MR. O. N. ARUP, M.ING.F., ENGINEER.

factors had to be decided, namely, the area of each shelter box and the strength of the walls. In the plans and elevations he was showing in this lecture he aimed at a standard provided by an area of between 200 and 300 square feet protected by a reinforced concrete wall from eight to twelve inches thick, cast *in situ* and restrained at top and bottom. This standard was rather higher than that of the ordinary shelter. Could new construction be made to conform to such a standard of protection without too great an increase of cost, and without impairing the amenities of the dwellings?

**Costs Compared.**

With regard to cost, it sounded expensive to make a building of solid reinforced concrete box construction, and that was probably the reason it had not been thought of as a possibility for cheap wartime housing. But it all depended on the design, and the secret of good reinforced concrete design was simplicity. What took time and cost money were complications of shuttering and reinforcement. The concrete itself could always be produced at whatever rate of progress was desired. If the design was reduced to a simple system of walls and slabs without projections, columns and beams, built up in a regular pattern with perfect accessibility to every part, with all shuttering consisting of simple units moved from place to place and re-used over and over again, and all reinforcement made up in mats ready to be placed in position, then speedy construction would be possible, the cost would be low and the amount of skilled labour reduced to a minimum. This was illustrated by the fact that even before the war a system of construction consisting only of reinforced concrete cross walls and floors had been adopted for flats, not in order to obtain protection, but because it competed successfully in cost with other methods of construction.

Slides showing blocks of flats erected in Copenhagen illustrated this part of the lecture, and Mr. Arup explained that in these flats a very ingenious method of steel shuttering had been used to keep the labour costs low.

Another slide showed the plan of a housing scheme prepared for the Finsbury Borough Council before the war. Here a similar method of construction had been adopted partly because it had been found to compare favourably in cost with the ordinary reinforced concrete frame building and partly because it had a certain quality of neatness and simplicity due to the avoidance of projecting beams, columns, etc. The scheme had been stopped by the war.

The position was that such a method of construction provided a considerable amount of protection without costing more than other methods: this protection could be increased by making thicker walls and this would not cost very much.

With regard to amenities, a building on this principle should be as satisfactory as any other, and the solidity of the structure should make it more sound-proof, but large window openings could not be allowed in war time, nor could we afford to provide the same standard of accommodation as in peace time. For the time being we were forced to house workers and bombed-out families in hostels offering a minimum of space per person and with central and communal services, restaurants, recreation rooms, etc. The object should be to erect a structure to be used for the time being as a war time hostel, but so designed that later it could be easily transformed into peace-time dwellings with large window openings and much more space per person. These various considerations had led him to adopt as the basic structure a simple system of reinforced concrete cross walls connected by horizontal slabs serving as floors and roof. For economic reasons the structure should not be less than two storeys high. The outer walls should consist of 14-in. brickwork or hollow concrete blocks, reinforced horizontally to span between the strong reinforced concrete walls.

The reasons for making the outer walls of brickwork were, first, that outer walls of reinforced concrete would complicate construction. Secondly, concrete did not provide sufficient heat insulation; and thirdly, if the structure was first to be used as a shelter or hostel and later was to be converted to peace time use, when it became necessary to make larger window openings reinforced concrete construction would make this difficult.

Another reason for a brick outer wall was that in the event of a direct hit it was better to provide an outlet for the explosion through the outer wall panels, as this might reduce the destructive effect of the explosion on the cross walls protecting neighbouring cells.

A number of other interesting matters were dealt with in the lecture. One was that the idea of light temporary structures being much more quickly erected than substantial ones was partly illusory when large-scale building was concerned. The fact that one hut could be erected in a day did not mean that a thousand huts could be erected in a day.

A number of questions were asked and answered and a vote of thanks was passed to the lecturer.

# THE WAR DAMAGE ACT—10

By W. T. CRESWELL, K.C., Hon.A.R.I.B.A., A.S.I., etc.

## PART I.

### Buildings and Other Immovable Property.

### (Continued.)

*Special Provisions as to Certain Classes of Land.*—These provisions are comprised in Sections 37 to 44 of the Act.

*Crown Land.*—Contributions are not generally payable on Crown lands where all proprietary interests are held by the Crown or a Government Department on the relevant date—that is, January 1 of the year in question—but the Treasury may determine that on certain properties of this class contributions shall be paid. If, on the other hand, the Crown or a Government Department does not own all the proprietary interests in a particular property, the contributions are payable by, and indemnities recoverable from, these authorities, as they would be from an ordinary subject of His Majesty.

If the Crown or a Government Department held all the proprietary interests in a hereditament at the time of the war damage, then, in general, no compensation for that war damage is to be made to them. The Treasury may, however, designate certain of such hereditaments or classes of hereditaments as recipients of compensation in spite of such complete ownership by either of them.

*Land Belonging to Foreign States and Sovereigns, etc.*—Section 38 provides that immunity from liability to pay contributions or indemnities as between landlord and tenant, or to pay indemnities as a mortgagee, shall be given to Foreign and European representatives in respect of any contributory property. This is in accordance with the general rule of diplomatic privilege.

But if for this reason any indemnity which would otherwise have been payable to any other person having part proprietary rights in such properties is reduced by the operation of this immunity (of his landlord or tenant, whichever the representative may be), then the Commissioners of Inland Revenue is to make good to him the loss so brought about.

*Land Held for Charitable Purposes.*—Section 39 gives relief to charitable institutions from the payment of contributions, but the amount of compensation finally payable to them, and the conditions to be attached to payments, are to be decided at the discretion of the Commissioners, who will consult with representatives of charities concerned and, when a payment of cost of works is made, the owners of any other interests in the property concerned.

The Act gives no definition of "a charity," but the designation is understood to include societies (*a*) for the relief of poverty; (*b*) for the advancement of education; (*c*) for the advancement of religion; (*d*) for other purposes beneficial to the community not falling under any of these heads.

*Land Occupied for Purposes of Certain Undertakings.*—Section 40 of the Act contemplates further determination by Parliament in respect to properties used mainly or exclusively for carrying on certain undertakings set out in Subsection (5) thereof, and including public utility undertakings.

No instalment of contribution is to be paid in any year on any property so occupied for such an undertaking at the relevant date of that year (January 1); and, generally, where no contribution is paid no payment for war damage will be made, but certain payments may be made if Parliament thereafter so determines. However, there is definite provision made for payments towards the cost of urgent repairs for meeting the circumstances created by war damage, and these payments are to be as part of any full payment determined by Parliament, and deducted before final payment.

*Highways.*—No payments as generally provided for in the Act are to be made in respect of war damage to highways maintained at the public expense; but the Treasury, after consultation with local authorities deemed by them to be concerned, will evolve a scheme to meet damage occurring in the risk period; and this scheme will regulate the contributions to be made by local authorities (including the L.C.C.) at rates and by methods to be laid down in the scheme. These may include the payment by the Ministry of Transport of a half-share

GRAY'S INN, AFTER A RECENT RAID.

(or less) of the contribution of any Council, after approval by the Treasury. This scheme is essential, because highways are not contributory properties, and so are not assessed for purposes of Schedule A (Income Tax) or valued for rating purposes. This scheme will not take effect until the Order for it is approved by resolution of the House of Commons. Reference should be made to the definitions given in Section 41 (11).

*Air-raid Shelters.*—By Section 42, no provision is made for the payment of contributions in respect to air-raid shelters. Air-raid shelters are exempted from Schedule A (Income Tax) under Section 17 of the Finance Act, 1938; and, by Section 1 of the Rating and Valuation (Air-Raid Works) Act, 1938, it is provided that, on ascertaining the value of a hereditament for rating purposes, no regard is to be had to any room or portion added solely for protection against air raids, or to any structural alterations or improvements made for that purpose. They are not, therefore, contributory properties.

No payment of cost of works or of a temporary works payment is to be made to a local authority in respect to war damage to a shelter erected by them or in respect to works executed by them for making good war damage to a shelter erected by any person wholly or mainly with materials supplied free of charge on behalf of His Majesty under the Air Raids Precautions Act, 1937; nor, in general, are such payments to be made in respect to a shelter erected wholly at the expense of the Board of Education for the purpose of affording an air-raid shelter to pupils attending a school or educational institution.

In all ordinary cases it may be assumed that payments of cost of works and temporary works payments in respect of war damage will be made following the general rules laid down in the Act.

*Land Belonging to National Trust.*—Section 43 exempts property held by the National Trust inalienably (that is, that cannot be transferred) and in absolute possession, and excludes the Trust from the right to receive payment for war damge.

*Requisitioned Land.*—Section 44 refers to land the possession of which is taken in the exercise of emergency powers at any time between August 24, 1939, and August 31, 1941. Contributions are still payable by the persons having proprietary interests in the land, even though it has been requisitioned. If the Commission decides that a value payment is to be made in respect of war damage to such land, then no other payment for such damage is payable under the Compensation (Defence) Act, 1939, which provides for compensation in respect of damage to requisitioned property other than that due to fair wear and tear or war operations.

The payment of costs of works follows the general rules, and if the war damage is made good no other compensation is payable under the last-mentioned Act. The payment of cost of works is to suffice as final compensation to the owner or person concerned.

*(To be continued.)*

## EMERGENCY INQUIRY BUREAU

### Agent's Commission.

SIR,—*Last October a house agent let my house furnished. The tenancy was for three months, with the option to stay on another three months, and after that, monthly, if desired. The latter three months expired on April 23. So far I have paid £3 3s. to the agent, his 5 per cent. commission on three months' rent, and have recently received a further similar account for commission for the second three months. As no provision regarding payment of agent's commission was made in the agreement, is the agent entitled to full commission, in view of the fact that he does nothing to earn it, and, if so, for how long shall I be liable to pay?*

If, as appears, no definite arrangement was entered into as to payment of agent's commission, the custom is to pay the full commission on a year's rent and no more. It follows that this is the reason for the account for commission for the second three months being received. Similar commission will be payable on the subsequent amounts received monthly and until the year's tenancy has expired.

## CEMENT PRODUCTION

### OFFICIAL COMMITTEE'S REPORT.

THE report of the Committee on Cement Production set up by the Minister of Works on January 4 last, "to consider and report to the Minister whether—bearing in mind the probable demands for cement in meeting current needs and in post-war reconstruction, and taking into consideration economic, strategic and other factors affecting the allocation of cement—new cement works should be established, existing ones extended or old plant modernised, and if so, what general considerations, financial, geographical and economic, should apply," has been issued by Stationery Office, price 2d.

The unanimous conclusions of the Committee (which sat under the chairmanship of Mr. George Balfour, M.P.) may be summarised as follows :—

(i) The existing works are capable of producing all the cement that is likely to be needed in war-time.

(ii) The existing works, together with the projected extensions, should together be able to meet the greatest demand that might arise during the first two years after the war.

(iii) At any time during the first two years after the war a conclusion can be arrived at as to whether it is necessary still further to increase production by the establishment of new works.

(iv) The position should be reviewed by the Ministry of Works and Buildings from time to time, say, every six months, and the necessary steps taken if in the interval some new factor comes to light which would modify the facts as they have been presented to the Committee at the present time, and make it necessary to undertake extensions during or after the war period.

(v) The Ministry of Works and Buildings should keep in contact with the industry to encourage and assist the preparation of plans for extensions, so that when it is necessary to extend no time will be lost in considering the preliminary stages. The Ministry should also take steps to ensure that no undue pressure is exercised by the established manufacturers to prevent the setting up of new works which are in themselves an economic proposition.

Points from the Report are that the consumption of cement is governed by the available building labour force, and allowance should be made for an annual war-time consumption of about 6,000,000 tons, against a plant capacity under peace-time conditions of 8,750,000 tons. The Committee refer to the evidence of one witness regarding the provision of bomb-proof shelters on a large scale. They state: "It is sufficient to observe that if such a scheme were to be embarked upon, labour and materials (including cement) required for the construction of such works would have to be diverted from other works (which we assume to be absolutely essential at present) unless it were found possible to augment the labour force at present employed in the building and civil engineering industries."

The restoration of peace-time conditions should make available the production of between 9,000,000 and 10,000,000 tons annually. "If there are indications that the demand is likely to exceed the total of 10,000,000 tons, and it becomes necessary to provide additional plant, extension of existing plants suitably located geographically can be provided quickly." On the question of slag cement, the Committee state that it is clear that an increased production of cement can be obtained to the extent of 250,000 tons by the use of hæmatite blast-furnace slag available. "It is questionable," the Report adds, "whether in war-time expenditure of labour and materials should be undertaken upon the construction of granulating plants at steel works and drying plants at cement works until there is positive evidence that it has become a matter of urgency to secure additional output of cement."

On the question of exports, the Report states that during the 10 years before the war the maximum export of cement was 1,092,000 tons in 1929, and the minimum in any year 399,000. During the war period exports have fluctuated between 7,000 and 72,000 tons per month. Post-war, there should be no difficulty in providing for export as soon as the demand can be created and shipping is available.

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## OFFENCE UNDER ARCHITECTS' REGISTRATION ACT

Walter J. Haward, of 78, High-street, Hoddesdon, Chairman of Hoddesdon Council, and his son, Hedley Haward, were summoned at Cheshunt Court on June 4 for carrying on business under the name and style of "architect" without being a registered architect.

Mr. E. A. Williams appeared on behalf of both defendants, and pleaded guilty, intimating that there were extenuating circumstances.

Mr. W. Chalmers Hunt, prosecuting on behalf of the Architects Registration Council, said the defendants carried on business as Haward and Haward, and were described on the name-plate displayed on the premises and on headed notepaper as "auctioneers, estate agents, architects and surveyors."

"Until August 1, 1940, no offence had been committed under the 1931 Act," said Mr. Hunt, "because they did not describe themselves as registered architects. But on August 1 an amended Act came into force, and from that day an offence has been committed. The Council do not wish to be vindictive, but thought this case should be brought before the Bench in order that the public should be given some indication that when they go to an architect they go to an architect, and not to an estate agent."

Mr. Williams said the defendant, Hedley Haward, was the son of Mr. Haward senior, and went into business in 1934. He had been articled for several years to a very eminent architect. When he went into practice in 1934 he was absolutely entitled to do so.

"In January, 1940, he left the business and went away. At that day when Haward junior left he was still entitled to go on advertising himself as an architect," said Mr. Williams. "This is really a sin of omission and not commission, because since January, 1940, there has been no practising as an architect, and no active participation by any unqualified person. In fact, when Mr. Haward senior knew about this he offered to pay to the Registration Council the dues for his son to be registered as from 1934."

Each defendant was fined 10s. and ordered to pay 2½ guineas costs.

# POST-WAR RECONSTRUCTION

## MR. CRESWELL'S LECTURES, NOS. 1 AND 2.

The opening lecture of a series on post-war reconstruction was given by MR. W. T. CRESWELL, K.C., Hon.A.R.I.B.A., on Monday, June 9, at the Polytechnic School of Architecture, Surveying and Building, Regent-street, W.1. The lectures are primarily intended for local government officers, town planners, architects, engineers, surveyors, and building promoters.

Lord Horder, G.C.V.O., who presided, was welcomed and thanked by Sir Isadore Salmon, C.B.E., M.P., representing the governors of the Polytechnic.

The lecturer took for the subject of his first lecture "Economics for the Architect and Builder." Amongst other things he said that from all sides and every sphere of our national life we hear of the intention to find, in the destruction and disruption caused by the war, an opportunity for better construction, materially and socially. On those concerned in building and engineering these destructive and disruptive forces have been felt especially heavily. The greater the destruction, however, the wider the opportunity to bring to birth some at least of the dreams of artists, architects, engineers, builders, and owners of property—buildings more beautiful and better adapted to their special uses, town planning more convenient and rational showing a graceful elasticity as it deals with village, town, suburb or city. No building or road need be ugly, for it is the wish of architect, engineer and builder to combine and produce the maximum convenience for those who live in and use them; and also to use modern art and science to preserve a beautiful and hygienic exterior and interior.

After referring to, and giving examples of, buildings, etc., that exist in our cities and towns which cannot be protected from criticism in these matters, the lecturer continued: In the present mortal struggle we see wide powers being given to various branches of Government and local government. It is certain many of these powers will remain in the times of peace. In particular, the Ministry of Works and Buildings, under Lord Reith, assisted by a consultative panel, is charged with research on the economics of building, and is given wide and extending powers for the physical reconstruction of town and country and all that concerns us this evening. The scope of their research is almost infinite. No parallel to the Ministry of Works and Buildings has been formed in, or concerned with, any other industry. The continuance, wholly or in part, of the powers which the Ministry already exercises over the sale, distribution and use of materials will enable it to establish control over all enterprises so long as the Government decides that justice demands it in the interests of the community, socially and economically.

We must expect the introduction of new materials and new purposes for older materials, as some of the pre-war sources and materials will have been temporarily destroyed or the supply exhausted for munitions of war. This opens up great opportunity for inventive genius and imagination to offer substitutes. There will, no doubt, be prejudice against some materials in general use before the war and a preference for others, even if the fear of the recurrence of war is removed.

The lecturer gave instances of such materials.

The need of some State control will be necessary for some time after the war is ended; otherwise building materials might be the subject of exploitation and chaos, such as no man could now imagine would occur. One thing is certain, that building Acts and by-laws will need to be revised and amended to meet these and other new conditions which will arise, some of them of a temporary, others of a permanent nature.

The lecturer then dealt with present methods of estimating and costing, and pointed out how units of costing are often wrongly applied. Too much reliance is put on the cost per cubic foot of buildings of a similar kind, whereas greater application of the cost per unit of accommodation would lead to more correct results.

At the close of the lecture the Chairman, Lord Horder, threw the matter of the lecture open to discussion, and some practical and useful questions were raised eliciting the personal views of many of those present. The lecturer answered questions put to him.

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Continuing this series of lectures on Thursday, June 12, MR. CRESWELL dealt with the effect of the war on pre-war building contracts, and, further, on new terms and conditions introduced (or which should be introduced for the benefit of the contracting parties) into contracts made since the outbreak of war. He gave examples of such terms and conditions. The amended contract for use during hostilities which has been prepared by the Joint Contractors' Tribunal was dealt with in some detail.

Where a pre-war contract did not contain any clause providing for its determination in the event of war, there is the law still existing which makes that contract unenforceable if it can be proved that frustration has intervened; that is, the entrance of some unforeseen cause of delay not the fault of either party to the contract.

The lecturer began a review of the many outlines of a building or engineering contract, and will continue this on Thursday, June 19, at 6.30 p.m.

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### Workers in the Forces.

IN the House of Commons,

MR. RILEY asked the Secretary of State for War if he was prepared to consider applications for the release from the armed forces of skilled building trade workers who were willing to take up work immediately in the building industry.

MR. LAW said that he was willing to consider the release of individual men where a sufficiently strong case was made out and it was supported by the Government department directly concerned and by the Ministry of Labour and National Service. Applications should not be addressed to the War Office, but to the Government department directly concerned.

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# WAR DAMAGE TO LAND AND BUILDINGS

## TREASURY REGULATIONS.

IN accordance with the provisions of the War Damage Act, the Treasury has issued two sets of regulations for the direction of the War Damage Commission and the guidance of the public in connection with claims for payments in respect of war damage to land and buildings.

The first (Statutory Rules and Orders, No. 569), dealing with notification and claims, consists of a series of detailed directions as to the procedure to be followed. The regulations, which are the legal basis for the Commission's forms and general procedure in handling claims:

Set out the classes of persons upon whom lies the responsibility of notifying, within thirty days, the occurrence of the event upon which a claim is to be based, and details of the particulars which the Commission is entitled to require.

Prescribe the steps to be taken in relation to notifications of damage received by District Valuers or any other Government Department before the Act was passed.

Require that a claim for payment of cost of works, or for a temporary works payment, shall be made within thirty days after the receipt by the claimant of the claim form, or within thirty days after the completion of the work, whichever is the later. Particulars of work done, or remaining to be done, of alterations or additions made to a property, and other matters are to be supplied within thirty days after a request from the Commission, which is also empowered to call for a detailed account of the works executed and a certificate as to their cost.

Place upon the claimant for a value payment, or a part thereof, the duty of making a claim within six months after the receipt of the claim form. Power is given the Commission to require within thirty days particulars, among other things, as to the disposal and value of any articles which formed part of the hereditament and became available as materials in consequence, either directly or indirectly, of the war damage.

Give details of certain specific information which the Commission is entitled to seek from the claimant who desires to receive an advance payment under what has become known as the "Hardship" section (Section 8).

It is laid down as the condition of a right to receive any payment that due notification of the war damage has been given; the Commission is given discretion to extend the time limit in particular cases; and it has authority to require any information given to it under the regulations to be verified by a statutory declaration. Notification of damage may be made by a person with a proprietary interest (generally speaking, freeholder, leaseholder for more than seven years, ground landlord or mortgagee), personally or by his authorised agent, and the Commission may accept a notification given on his behalf by any member of his family or other person accustomed to act in relation to his affairs.

Similar Notification and Claims Regulations adapted to Scottish real property law have been issued (S.R. & O. No. 660/821).

The second set of regulations (No. 588) are general in character. The Commission is empowered to make immediate value payments (instead of waiting until the end of the war) in cases where they are satisfied that it is necessary to meet the building requirements of persons engaged in work of public importance, particularly in securing the public safety, the defence of the realm, the maintenance of public order and "the efficient prosecution of any war in which His Majesty may be engaged." Rules are laid down as to the valuation of articles from a damaged building becoming available as materials, and as to the restrictions and conditions on payments for the benefit of persons not resident in the United Kingdom.

# A.R.P. SCHEMES

## LONDON.

**Camberwell.**—B.C. recommend application to M.H. for sanction to borrow £14,221 for council's part of shelter schemes.

**Hendon.**—T.C. received approval to public cleansing stations for shopping areas at Hendon Central, Burnt Oak and Edgware, at £1,950 each.

**Wandsworth.**—B.C. engaged additional contractors as follows: F. C. Flack, extension of domestic surface shelters; W. Pye, demolition and clearance of sites; J. Dyer, reinstatement of trenches, Wandsworth Park; Snelling and Rayment, additional steel strutting, public basement shelters; H. Bacon and Sons, Ltd., and W. H. Lorden and Son, additional protective works at first-aid posts.—Whyatt and Smith, surface shelter at one of the stretcher party stations.—Council granted permission for A. H. Hunt, Ltd., Bendon Valley, to erect a decontamination centre and store.—Council approved colour washing walls and ceilings of communal surface shelters, at £3,200.—A. D. Wire and Co. and Bleach and Dorey, Ltd., to undertake concreting of Anderson shelters, at £3 17s. 6d. per shelter, plus £1 2s. 6d. for rubbering joints where necessary, with an addition of 7s. 6d. for special cases.—Cement Waterproofers, Ltd., to treat 6-person shelters, at £5 15s. each; 8-person shelters, £6 13s. 4d. each, and 10-person shelters, £8 2s. 8d. each.—Property for conversion as squad depot proposed, at £980. Boro' Eng. prepared estimate.—Additional public gas cleansing stations proposed, at £5,000.

**Woolwich.** — Boro' Eng. constructing heavy blast walls at basement shelters at town hall, municipal offices and Plumstead Library, at £1,322.—Subject to approval of Ministry of Home Security, shelter accommodation to be provided by Boro' Eng. at Woolwich Red Triangle boys' club, Pellipar Hall, Godfrey-rd., Woolwich, at £228; and lavatory accommodation at public shelter, 7, Greens End, Woolwich, at £102.

## PROVINCIAL.

**Aldershot.**—T.C. resolved to recommend C.C. to accept tender, amounting to £359 11s. 9d., for reinforcement of underground shelters.

**Andover.**—T.C. approved: Three shelters, for Kelly's Directories, Wilts and Dorset Motor Services, Ltd., and Andover Steam Laundry.

**Batley.**—T.C. to invite tenders for protective brick walls at fire station and at A.F.S. stations.

**Beverley.**—R.D.C. provisionally accepted tender of P. R. Gillatt, West End, South Cave, Brough, for shelters in parishes of Leconfield and Molescroft. Plans by G. Palfreyman, Eng. and Sur., 36, Market-pl.

**Blackpool.**—T.C. propose additional communal domestic shelters.

**Bournemouth.**—Boro' Eng. submitted T.C. details of proposals for additional strutting in report centre, at £122 10s. Scheme approved.—Plan for additional accommodation for four ambulances, opposite pavilion in King's Park, approved.

**Hinckley.**—U.D.C. approved plans for works shelters: Hosiery works, St. John-st., J. Gent and Co., Ltd.; boot works, High-st., Barwell, Ball and Wright; boot works, Parsons-la., G. Robinson and Co.

**Kesteven.**—C.C. propose decontamination centres at Grantham, Sleaford and Bourne, at £600, and adapt pavilion at Grantham Town Football Club ground for A.R.P. post.

**Keswick.**—Cumberland Pencil Co., Ltd., to build shelter.

**Kettering.** — T.C. to erect public shelter, Edinburgh-st., at £120.—Contracts given to six builders for replacing demolished shelters.—T.C. preparing plans for electrically heating of shelters.

**Lancaster.** — T.C. seeking sanction of Ministry of Home Security for additional communal shelters.

**Manchester.**—T.C. propose reconstruction of condemned public shelters.—T.C. approved plans: Shelter and garage rear of 279, Rye Bank-rd., Chorlton-cum-Hardy, J. Jackson. Architect, J. N. Liversage, 10, Linden-rd., Cheadle Hulme, Stockport.

**Mansfield Woodhouse.**—U.D.C. accepted tenders by H. Ashley and Sons, Churchhill, and H. Rouse and Sons, 30, High-st., both of Mansfield Woodhouse, for 42 domestic communal shelters, for 1,728 persons. Plans prepared by L. Walker, Sur. Estimated cost £8,814.

**Melton Mowbray.**—U.D.C. proposes 48-person communal shelters.

**Middlesbrough.** — Tenders accepted by E.C. for further school shelters: J. H. Proudlock, for Fleetham-st., £241; Smeaton-st., £187; St. Paul's C.E., £369; and St. Philomena's R.C. schools, £372. C. J. Boyd, for Denmark-st., £752; and Newport-rd. schools, £923. Egerton Price, for Hugh Bell, £554; and Cargo Fleet Lawson schools, £1,108. N. Thompson, Ltd., for Victoria-rd., £1,042; and Marton-rd. schools, £798. Hudson Bros., Ltd., for Ayresome, £554; and St. Alphonsus's R.C. schools, £948. E. T. Sweating and Son, Ltd., for Marsh-rd., £379; and St. Hilda's C.E. schools, £369. A. Robinson, Ltd., for St. Patrick's R.C. senior, £743; St. Patrick's R.C. junior, £204; and St. Richard's R.C. schools, £374. (All contractors of Middlesbrough).—E.C. to provide shelters at St. Mary's Convent secondary school.

**Morley.**—F. Turner, Boro' Sur., preparing plans for erection of additional domestic communal shelters; also strengthening of basements for shelters.

**Newcastle-on-Tyne.**—City Council received consent to build decontamination centre in Druridge-dr., at £3,300.—Sanction has also been received to carry out improvements to gas cleansing station at general hospital, at £330.—Shelter proposed at general hospital, at £200.

**Newcastle-under-Lyme.** — T.C. provisionally accepted tender, at £1,108, submitted by T. Hughes, 22, Bagnall-st., for eight new wardens' posts and structural alterations to four existing posts. Plans by A. Cotton, Boro' Sur.

**Northfleet.**—U.D.C. recommended tender of R. Hopkins and Sons, Central Station-approach, Gravesend, at £1,098, for cleansing unit at a depot in Springhead-rd.

**Rushden.**—U.D.C. approved plans for works shelters: Spencer-rd., Sanders and Sanders; Portland-rd., Co-operative Wholesale Society, Ltd.; Oliver Cromwell-rd., H. W. Chapman, Ltd.; Glassbrook-rd., W. Sargent and Co., Ltd.; College-st., R. Tarry and Co., Ltd.; Oakley-rd., Allebone and Son, Ltd.

**Sedgefield.** — R.D.C. to build shelters at Chilton-la. Plans by J. Tarren, Sur.

**Stoke-on-Trent.**—E.C. proposes shelters at St. Dominic's High School for Girls, at £759.

**West Bromwich.**—T.C. approved structural protection at gas cleansing stations. Total cost, £1,707.—In addition, cleansing station and first-aid post to be provided at Hill Top, at £3,232.

**Whitehaven.** — E.C. received approval of B. of E. for seven shelters at Kells Central schools.

## SCOTLAND.

**Glasgow.**—Corporation approved cleansing station at Glenmarvis-st., the architect being T. Somers, Municipal-bldgs.

**Lanarkshire.**—Plans prepared for centre depots at Victoria-st., Larkhall, and at Victoria-st., Blantyre, the architect being W. Watt, Albert-st., Motherwell.

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# WAR EMERGENCY SPECIFICATION FOR DOORS

A War Emergency Revision of B.S. 459-1941 for doors has just been issued by the British Standards Institution—the first of a series of War Emergency British Standards for building materials that has been prepared under the new arrangements made with Mr. Tait, the Director of Standardisation of the Ministry of Works. Mr. Tait has appointed a committee of representatives of the various Government Departments to assist him, and the building requirements of the various Government Departments are being co-ordinated so that they all work to a common Standard. Mr. Tait is working in close collaboration with the B.S.I. in this work of co-ordination and the relevant sections of the industry are being fully consulted.

The Standards are being issued as War Emergency Standards by the B.S.I. so that they can be made readily available to all concerned, and the issue of all national standards centralised in the national standardising organisation.

The following extract from the Foreword is of interest as indicating the scope and object of the work. "This Specification is issued for the use of all technical officers of Government Departments and their agencies, local authorities and independent architects and engineers, advising Government Departments as well as building contractors, builders, merchants and manufacturers of doors. Unless there is any reason to the contrary the Specification is accepted and will be followed by all Departments concerned. Suitable alternatives from merchants or manufacturers' existing stocks will be accepted, but manufacturers are invited in their own interests and in the national interest to cease production of doors not listed in this Specification.

"This Specification may be subject to revision from time to time in the light of changes in the availability of raw materials and manufacturing capacity. The issue of revisions when authorised will be notified to Government Departments and to trade and technical Press."

The revised Specification reduces the number of door sizes and provides for doors of the following types: (a) Ledged and Braced; (b) Framed, Ledged and Braced; (c) Panelled Doors; and (d) Flush Doors. Copies of this Specification may be obtained from the Offices of the Institution, 28, Victoria-street, S.W.1. Price, 2s. 3d., post free.

# WAR-TIME BUILDING

## JOINTING MORTARS FOR BRICKWORK.

War-time Building Bulletin No. 16* discusses special problems that arise in war time in selecting mortars for brickwork. The factors usually considered are the strength required of a wall, the rate at which it is required to develop, weather conditions at the time of building, weather resistance of the wall, availability of materials, ease of workmanship and cost. In war time there must be added, in many cases, the question of blast and splinter protection. All these factors are considered in the Bulletin, and definite recommendations are given for a number of different classes of work—*e.g.*, air raid shelters, walls to carry heavy loads, normal and load-bearing walls, non-load-bearing walls, parapets and walls below damp-proof course.

In case it should again become necessary to economise in cement, limits are given below which it is inadvisable to reduce the cement content. The recommendations are summarised in the form of a table.

* Building Research Wartime Building Bulletin No. 16. "Jointing Mortars for Brickwork." H.M. Stationery Office, price 3d.

# CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

## BUILDING.

### JUNE 21.

**West Fife and Kinross Agricultural Executive Committee.**—Repair of farm buildings on farm of Auchmuir. Chief Eng. and Sur., Dept. of Agriculture for Scotland, St. Andrew's House, Edinburgh, 1.

### JUNE 23.

**Burton Latimer U.D.C.** — Seven surface shelters. Sur. Dep. £1.

**Chorley T.C.**—Removal of existing timber revetment and relining of cattle market shelter trenches (300 persons) in situ reinforced concrete. Boro' Eng.

**Erith T.C.**—Demolition of properties. J. H. Clayton, Boro' Eng. and Sur. Dep. £1 1s.

**Leeds T.C.**—Demolition of property. W. S. Cameron, City Eng.

**Tredegar U.D.C.**—Structural alterations and additions to Central fire station. Sur.

### JUNE 24.

**Ballycastle.**—Gas decontamination centre at Dalriada district hospital, for Committee of Governors. C. T. M'Lynn, C.E.

**Esher U.D.C.**—Sleeping quarters, canteen, etc., for A.R.P. personnel at Council's depot, Cobham. Sur. Dep. £2 2s.

### JUNE 26.

**Clitheroe T.C.**—Extensions to sub-station. Boro. Eng. and Sur. Dep. £2 2s.

### JUNE 27.

**Cheshire C.C.**—Mortuary accommodation at Nantwich institution. F. A. Browne, County Architect, The Castle, Chester. Dep. £1 1s.

**Gillingham T.C.**—Reconstruction of shelter at Liberal Club. W. H. Dobson, Sur. Dep. £1 1s.

**Rochdale T.C.**—Adaptation of premises in Back Oldham-rd. for use as British restaurant. Boro' Sur.

**Wymondham U.D.C.**—Shelters at Back-la. and Whitehorse-st. R. W. Maughan, Sur.

### JUNE 28.

**Beds. C.C.**—Stores, etc., at rear of County workshops for Blind, Leicester-rd., Luton. County Architectural Dept., Bedford. Dep. £2 2s.

**Birkenhead T.C.**—Alterations and additions to police station. Boro. Eng. and Sur. Dep. £1 1s.

**Norwich T.C.** — Permanent repairs to dwelling-houses. City Architect.

### JUNE 30.

**Cheshire C.C.**—Mass concrete retaining wall with stone face, steps, high-level footpath, etc., for length of 70 yards, approx. Geo. E. Ashforth, County Sur. and Bridgemaster, Watergate House, Chester. Dep. £2 2s.

**Frome U.D.C.**—Reconstruction and repair of houses in Nunney-rd. R. W. H. Vallis, architect.

**Workingham T.C.**—32 domestic shelters. R. R. Hole, Town Hall.

### NO DATE.

**Huyton-with-Roby U.D.C.**—Brick communal shelters, erection and waterproofing of Anderson shelters and repairs to property. A. W. Thomas, Eng. and Sur.

**South-East Essex Joint Hospital Board.**—Additional accommodation at isolation hospital, Gooseberry Green, Billericay. Hugo R. Bird, F.R.I.B.A., chartered architect, St. Thomas' Gate, Brentwood. Dep. £2 2s.

## PAINTING, ELECTRIC LIGHTING, HEATING, &c.

### JUNE 21.

**Buckley U.D.C.**—External painting of (and necessary repair to woodwork of) 20 houses, at Drury. Sur.

### JUNE 23.

**Denton U.D.C.**—Exterior painting to technical school and library. Eng and Sur.

**West Riding C.C.**—Internal renovations Whitwood mining and technical institute. M. G. Swaine, Sec., Education Offices, 97, Smawthorne-la., Castleford.

**West Riding C.C.**—Internal decorations and external painting of Edlington junior mining institute. A. Walker, divisional clerk, Winchester House, Scot-la., Doncaster.

### JUNE 25.

**Bingley E.C.**—Internal and external painting of boys' pavilion and internal renovation of dining-room and annex at grammar school. E. B. Nelson, Education Office.

**West Riding C.C.**—Internal renovation (part), repairs to paths, Holmfirth Holme Valley grammar school. A. Beilby, clerk, 29, Standard House, Huddersfield.

### JUNE 26.

**West Riding C.C.**—Various works at Goole Grammar school. W. T. Silvester, clerk to Governors, Estcourt-chmbs.

### JUNE 27.

**Scarborough T.C.** — Painting of Valley Bridge. H. V. Overfield, Boro. and Water Eng.

### JUNE 28.

**Dukinfield T.C.**—Exterior painting of 70 houses. S. A. Smith, Housing Manager, Room 1, Town Hall.

**Peterborough E.C.**—Exterior and interior painting and decorating and/or repairs at certain schools. W. J. Deacon, clerk, County Education Offices, Bridge-st.

### JUNE 30.

**Bury C.B.**—Internal decoration at St. Thomas's school and Elton council school (mixed department). Boro' Eng., Bank-st.

**East Riding E.C.**—Exterior and interior painting various schools. County Architect, Beverley.

**West Riding E.C.** — Internal renovations and external painting of schools in Grimethorpe, Shafton, Hemsworth, South Elmsall, South Kirby and Upton. C. L. Crossley, 8, St. John's North, Wakefield.

**West Riding C.C.**—External painting of Thorne grammar school. E. L. Harrap, Education Offices, Goole.

**Wing R.D.C.**—Exterior redecoration of houses at Cheddington, Dagnall and Wing. Sur.

### JULY 3.

**Cards E.C.**—External painting certain school buildings. R. Jones, County Architect, Aberayron.

### JULY 5.

**West Riding E.C.**—Internal renovation and external painting of Darton Barugh school and Darton Mapplewell school, infants' department and caretakers' house. G. J. Gibbs, Divisional Clerk, Education Office, Cudworth.

**West Riding E.C.**—Asphalting playground surface at Reedness school. E. L. Harrap, Education Offices, Goole.

### JULY 7.

**Mansfield T.C.**—Cleaning and painting at Newgate, Carter-la., King Edward and Moor-la. schools. W. Thompson, Boro. Eng., Carr Bank. Dep. £1 1s.

### JULY 9.

**West Riding C.C.**—External painting of Scotton Banks Sanatorium, Knaresborough. West Riding Architect, Wakefield.


FEDERATED EMPLOYERS' INSURANCE ASSOCIATION LTD. ESTABLISHED 1904

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**London Office:**

**23, Lawrence Lane, Cheapside, London, E.C.2.**


### NO DATE.

**Keighley T.C.**—External painting, Holden Hall, Oakworth. E. G. Felgate, Boro. Architect, College-st. Dep. £1.

**West Riding E.C.**—Tar painting playground, paths, etc., also resurfacing of hard tennis court, at Rothwell Grammar School. P. Beaumont, Clerk to Governors, 8, St. John's North, Wakefield.

## MATERIALS.

### JUNE 25.

**Belfast T.C.**—Plumbing materials. Estates Superintendent, Room 70, City Hall.

### JULY 3.

**South Africa.** — Plumbers' metal, for Department of Posts and Telegraphs. Dept. of Overseas Trade, Millbank, London, S.W.1 (T.Y.1675).

## ENGINEERING, IRON AND STEEL.

### JUNE 24.

**Staffs C.C.**—Strengthening of Tyrley county bridge, Market Drayton. County Sur., Stafford. Dep. £1 1s.

### JUNE 25.

**Leyburn R.D.C.**—Alterations and extensions to sewage disposal works. F. J. Rodwell and Son, engineers, Prudential-bldgs., 20, Park-row, Leeds, 1. Dep. £1 1s.

### JULY 4.

**Godalming T.C.**—Sedimentation tank and filter. Water Eng., 35, Bridge-st.

### JULY 14.

**Welwyn Garden City U.D.C.**—Outfall culverts, 1,200 yds. of 42-in and 48-in. dia. concrete tubes with manholes, box culverts and flood-water storage basin in River Valley. Capt. W. E. James, Eng. and Sur. Dep. £2 2s.

## ROAD, SEWERAGE AND WATER WORKS.

### JUNE 23.

**Lunesdale R.D.C.**—Laying of 1,040 yds. of 3-in. asbestos-cement water mains in Caton. A. R. Harlow, clerk, Hornby Hall, near Lancaster.

**Marlow U.D.C.**—Surface dressing of approx. 10,000 super yds. of roads. C. Kelvin Smith, Sur.

### JUNE 24.

**Southwick U.D.C.**—Supplying approx. 8,000 galls. refined tar. E. A. Coates, Sur.

### JUNE 20.

**Penybont Main Sewerage Board.**—Main outfall sewer. Thomas and Morgan and Partners, engineers, 23, Gelliwastad-rd., Pontypridd. Dep. £5 5s.

### JUNE 30.

**Essex Rivers Catchment Board.**—42-in. reinforced concrete pipe sluice, 280 ft. long, on reinforced concrete piles, at Bradwell-on-sea. W. J. S. Bew, Clerk of Board, Essex Rivers House, Springfield-rd., Chelmsford. Dep. 1.

### JULY 1.

**London Corporation.**—Mason and Paviors Works, City Eng., St. Helen's Court, 22, Great St. Helen's, E.C.3. Dep. £2 2s.

### JULY 2.

**Bognor Regis U.D.C.**—Partial reconstruction, widening and resurfacing of road, together with footways and laying surface-water sewers. Eng. and Sur. Dep. £5 5s.

# BUILDING ILLUSTRATED

## WORKS' CANTEEN, S. ENGLAND.

Building cost figures for this canteen (illustrated on page 589) cannot be accurately compiled owing to the fact that the building was partially erected by the factory's own staff. Sub-contractors and suppliers engaged were:

Reinforced concrete to foundations, Square Grip Reinforcement Co., Ltd.; precast concrete floors, Mono Concrete Co., Ltd.; coloured bricks throughout, Uxbridge Flint Brick Co., Ltd.; cast stone, Croft Granite Brick and Concrete Co.; roof, Turner's "Trafford" asbestos tiles, supplied by Wiggins, Sankey; ironmongery, Comyn Ching & Co., Ltd.; sanitary fittings, Wiggins, Sankey, Ltd.; heating and hot water, J. T. Meredith & Co., Ltd.; metal windows, C. E. Welstead; plasterboard and light T-section ceiling throughout first floor, Tentest Fibre Board Co.; steel furniture, Cox & Co.; stage curtains, Hall & Dixon, Ltd.; black-out blinds, A. J. Shingleton; kitchen equipment, R. & A. Main; flagstaff, J. W. Gray & Son, Ltd.; cork walls, Armstrong Cork Co., Ltd.; beer pulls in bar, Puckley & Beach; tiled floors and walls, Carter & Co.; four-colour lighting system, W. J. Furse & Co.; lighting and fittings, Holophane, Ltd.; bar flooring, Cellulin Flooring Co.; and stage lighting, Strand Electric and Engineering Co.

# RATES OF WAGES IN THE BUILDING TRADE

## AS AND FROM 1st JUNE, 1941

**[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]**

| | Crafts-men. | Lab-ourers. |
|---|---|---|
| Aberavon | 1/10½ | 1/5½ |
| Aberdare | 1/10½ | 1/5½ |
| Abergavenny | 1/10½ | 1/5½ |
| Abingdon | 1/9 | 1/4½ |
| Accrington | 1/10½ | 1/5½ |
| Aldeburgh | 1/7 | 1/3 |
| Aldershot | 1/9 | 1/4½ |
| Alfreton | 1/10½ | 1/5½ |
| Alnwick | 1/10 | 1/5½ |
| Altrincham | 1/10½ | 1/5½ |
| Amble | 1/10 | 1/5½ |
| Amersham | 1/9 | 1/4½ |
| Ammanford | 1/10½ | 1/5½ |
| Andover | 1/8½ | 1/4½ |
| Ardingley | 1/8½ | 1/4½ |
| Arundel | 1/8½ | 1/4½ |
| Ascot | 1/8½ | 1/4½ |
| Ashby-de-la-Zouch | 1/10½ | 1/5½ |
| Ashford (Kent) | 1/8½ | 1/4½ |
| Ashford (Middlesex) | 1/10½ | 1/5½ |
| Ashington | 1/10 | 1/5½ |
| Ashtead | 1/10½ | 1/5½ |
| Ashton-under-Lyme | 1/10½ | 1/5½ |
| Aylesbury | 1/8½ | 1/4½ |
| Aylsham | 1/7½ | 1/3½ |
| Bagshot | 1/8½ | 1/4½ |
| Banbury | 1/8½ | 1/4½ |
| Barnsley | 1/10½ | 1/5½ |
| Barnstaple | 1/8½ | 1/4½ |
| Barrow-in-Furness | 1/10½ | 1/5½ |
| Barry | 1/10½ | 1/5½ |
| Basingstoke | 1/8½ | 1/4½ |
| Bath | 1/10 | 1/5½ |
| Batley | 1/10½ | 1/5½ |
| Beaconsfield | 1/9 | 1/4½ |
| Beccles | 1/7 | 1/3 |
| Bedford | 1/10 | 1/5½ |
| Berkhamsted | 1/8½ | 1/4½ |
| Berwick | 1/10 | 1/5½ |
| Beverley | 1/10½ | 1/5½ |
| Bexhill-on-Sea | 1/9 | 1/4½ |
| Bideford | 1/8½ | 1/4½ |
| Biggleswade | 1/8½ | 1/4½ |
| Billericay | 1/8 | 1/3½ |
| Birchington | 1/8½ | 1/4½ |
| Birkenhead | ‡§2/0½ | ¶ |
| Birmingham | †1/10½ | 1/5½ |
| Bishop Auckland | 1/10½ | 1/5½ |
| Bishop's Stortford | 1/9½ | 1/5 |
| Blackburn | 1/10½ | 1/5½ |
| Blackpool | 1/10½ | 1/5½ |
| Blyth | 1/10½ | 1/5½ |
| Bognor Regis | 1/8½ | 1/4½ |
| Bolton | 1/10½ | 1/5½ |
| Bournemouth | 1/9½ | 1/5 |
| Bracknell | 1/8½ | 1/4½ |
| Bradford | 1/10½ | 1/5½ |
| Bradford-on-Avon | 1/7½ | 1/3½ |
| Braintree | 1/8½ | 1/4½ |
| Brentwood | 1/10 | 1/5½ |
| Bridgwater | 1/9 | 1/4½ |
| Bridlington | 1/10 | 1/5½ |
| Brighouse | 1/10½ | 1/5½ |
| Brighton | 1/9½ | 1/5 |
| Bristol | 1/10½ | 1/5½ |
| Broadstairs | 1/8½ | 1/4½ |
| Bromsgrove | 1/10 | 1/5½ |
| Buckley | 1/10½ | 1/5½ |
| Bungay | 1/6½ | 1/2½ |
| Burnham-on-Crouch | 1/7 | 1/3 |
| Burnley | 1/10½ | 1/5½ |
| Bursiem | 1/10½ | 1/5½ |
| Burton-on-Trent | 1/10½ | 1/5½ |
| Bury | 1/10½ | 1/5½ |
| Bury St. Edmunds | 1/8 | 1/3½ |
| Buxton | 1/10 | 1/5½ |
| Byfleet | 1/9 | 1/4½ |
| Cambridge | 1/10½ | 1/5½ |
| Canterbury | 1/8½ | 1/4½ |
| Cardiff | 1/10½ | 1/5½ |
| Carlisle | 1/10½ | 1/5½ |
| Carnforth | 1/10½ | 1/5½ |
| Castleford | 1/10½ | 1/5½ |
| Caterham | 1/10½ | 1/5½ |
| Chard | 1/7½ | 1/3½ |
| Chatham | 1/9½ | 1/5 |
| Chelmsford | 1/10 | 1/5½ |
| Cheltenham | 1/9½ | 1/5 |
| Chepstow | 1/10 | 1/5½ |
| Chertsey | 1/9½ | 1/5 |
| Chester | 1/10½ | 1/5½ |
| Chesterfield | 1/10½ | 1/5½ |
| Chichester | 1/8½ | 1/4½ |
| Chorley | 1/10½ | 1/5½ |
| Cirencester | 1/8 | 1/3½ |
| Clacton | 1/8½ | 1/4½ |
| Clevedon | 1/10½ | 1/5½ |
| Clitheroe | 1/10½ | 1/5½ |
| Cobham (Surrey) | 1/9½ | 1/5 |
| Colchester | 1/10 | 1/5½ |
| Colwyn Bay | 1/9½ | 1/5 |
| Congleton | 1/10 | 1/5½ |
| Coventry | 1/10½ | 1/5½ |
| Cranbrook | 1/8½ | 1/4½ |
| Cranleigh | 1/8½ | 1/4½ |
| Crawley | 1/8½ | 1/4½ |
| Crewe | 1/10 | 1/5½ |
| Cromer | 1/7½ | 1/3½ |
| Crowborough | 1/8½ | 1/4½ |
| Cuckfield | 1/8½ | 1/4½ |
| Darlington | 1/10½ | 1/5½ |
| Darwen | 1/10½ | 1/5½ |
| Daventry | 1/9 | 1/4½ |
| Deal | 1/8½ | 1/4½ |
| Denbigh | 1/9½ | 1/5 |
| Derby | 1/10½ | 1/5½ |
| Devizes | 1/7½ | 1/3½ |
| Dewsbury | 1/10½ | 1/5½ |
| Didcot | 1/8½ | 1/4½ |
| Diss | 1/7 | 1/3 |
| Doncaster | 1/10½ | 1/5½ |
| Dorchester | 1/8 | 1/3½ |
| Dorking | 1/9 | 1/4½ |
| Dover | 1/8½ | 1/4½ |
| Dovercourt | 1/8½ | 1/4½ |
| Driffield | 1/9 | 1/4½ |
| Droitwich | 1/10 | 1/5½ |
| Dudley | 1/10½ | 1/5½ |
| Dunstable | 1/9 | 1/4½ |
| Durham City | 1/10½ | 1/5½ |
| Eastbourne | 1/9½ | 1/5 |
| E. Glam. (Mon. Val.) | 1/10½ | 1/5½ |
| East Grinstead | 1/8½ | 1/4½ |
| Edenbridge | 1/8½ | 1/4½ |
| Ely | 1/7½ | 1/3½ |
| Epping | 1/10½ | 1/5½ |
| Exeter | 1/10 | 1/5½ |
| Exmouth | 1/9 | 1/4½ |
| Fakenham | 1/7½ | 1/3½ |
| Falmouth | 1/9 | 1/4½ |
| Fareham | 1/9½ | 1/5 |
| Faversham | 1/8½ | 1/4½ |
| Felixstowe | 1/9½ | 1/5 |
| Filey | 1/9 | 1/4½ |
| Fleetwood | 1/10½ | 1/5½ |
| Flint | 1/10½ | 1/5½ |
| Folkestone | 1/8½ | 1/4½ |
| Frinton-on-Sea | 1/8½ | 1/4½ |
| Frome | 1/7½ | 1/3½ |
| Gainsborough | 1/9½ | 1/5 |
| Gateshead | 1/10½ | 1/5½ |
| Gillingham (Kent) | 1/9½ | 1/5 |
| Glossop | 1/10½ | 1/5½ |
| Gloucester | 1/10 | 1/5½ |
| Godalming | 1/8½ | 1/4½ |
| Goole | 1/10½ | 1/5½ |
| Gosport | 1/10 | 1/5½ |
| Grantham | 1/9½ | 1/5 |
| Gravesend | 1/10 | 1/5½ |
| Great Yarmouth | 1/8½ | 1/4½ |
| Grimsby | 1/10½ | 1/5½ |
| Guildford | 1/8½ | 1/4½ |
| Guilsborough | 1/9 | 1/4½ |
| Halifax | 1/10½ | 1/5½ |
| Hanley | 1/10½ | 1/5½ |
| Harpenden | 1/9½ | 1/5 |
| Harrogate | 1/10½ | 1/5½ |
| Hartlepools | 1/10½ | 1/5½ |
| Harwich | 1/8½ | 1/4½ |
| Haslemere | 1/8½ | 1/4½ |
| Hastings | 1/8½ | 1/4½ |
| Hatfield | 1/10 | 1/5½ |
| Haywards Heath | 1/8½ | 1/4½ |
| Hednesford | 1/10 | 1/5½ |
| Hemel Hempstead | 1/9½ | 1/5 |
| Henley-on-Thames | 1/8½ | 1/4½ |
| Hereford | 1/8½ | 1/4½ |
| Herne Bay | 1/8½ | 1/4½ |
| Hertford | 1/10 | 1/5½ |
| Heysham | 1/10½ | 1/5½ |
| Hitchin | 1/9½ | 1/5 |
| Hoddesdon | 1/10 | 1/5½ |
| Holt (Norfolk) | 1/7 | 1/3 |
| Horley | 1/8½ | 1/4½ |
| Horsham | 1/8½ | 1/4½ |
| Horwich | 1/10½ | 1/5½ |
| Huddersfield | 1/10½ | 1/5½ |
| Hull | 1/10½ | 1/5½ |
| Hunstanton | 1/7½ | 1/3½ |
| Huntingdon | 1/8 | 1/3½ |
| Ilfracombe | 1/8½ | 1/4 |
| Ingatestone | 1/9 | 1/4½ |
| Ipswich | 1/10 | 1/5½ |
| Isle of Thanet | 1/8½ | 1/4½ |
| Isle of Wight | 1/8 | 1/3½ |
| Keighley | 1/10½ | 1/5½ |
| Kenilworth | 1/10½ | 1/5½ |
| Kettering | 1/10½ | 1/5½ |
| Kidderminster | 1/10 | 1/5½ |
| King's Lynn | 1/8½ | 1/4½ |
| Kirkham | 1/10½ | 1/5½ |
| Knowle | 1/10 | 1/5½ |
| Lancaster | 1/10½ | 1/5½ |
| Leamington | 1/10½ | 1/5½ |
| Leatherhead | 1/9½ | 1/5 |
| Leeds | 1/10½ | 1/5½ |
| Leicester | 1/10½ | 1/5½ |
| Leighton Buzzard | 1/7½ | 1/3½ |
| Letchworth | 1/9½ | 1/5 |
| Lewes | 1/8½ | 1/4½ |
| Lichfield | 1/9½ | 1/5 |
| Lincoln | 1/10½ | 1/5½ |
| Littlehampton | 1/8½ | 1/4½ |
| Liverpool | ‡§2/0½ | ¶ |
| Llandudno | 1/9½ | 1/5 |
| Llanelly | 1/10½ | 1/5½ |
| London— | | |
| 12m. radius | *2/0 | 1/6½ |
| 12-15 m. radius | *1/11½ | 1/6½ |
| Long Eaton | 1/10½ | 1/5½ |
| Longton | 1/10½ | 1/5½ |
| Loughborough | 1/10½ | 1/5½ |
| Louth | 1/9 | 1/4½ |
| Lowestoft | 1/8½ | 1/4½ |
| Luton | 1/10 | 1/5½ |
| Macclesfield | 1/10 | 1/5½ |
| Maidenhead | 1/9½ | 1/5 |
| Maidstone | 1/9 | 1/4½ |
| Malvern | 1/9 | 1/4½ |
| Manchester | 1/10½ | 1/5½ |
| Manningtree | 1/7½ | 1/3½ |
| Mansfield | 1/10½ | 1/5½ |
| March | 1/7½ | 1/3½ |
| Margate | 1/8½ | 1/4½ |
| Market Harborough | 1/9½ | 1/5 |
| Matlock | 1/9 | 1/4½ |
| Melton Constable | 1/7 | 1/3 |
| Melton Mowbray | 1/9½ | 1/5 |
| Merthyr | 1/10½ | 1/5½ |
| Middlesbrough | 1/10½ | 1/5½ |
| Middleton | 1/10½ | 1/5½ |
| Middlewich | 1/10 | 1/5½ |
| Milford Haven | 1/9 | 1/4½ |
| Morecambe | 1/10½ | 1/5½ |
| Morley | 1/10½ | 1/5½ |
| Mundesley | 1/7½ | 1/3½ |
| Nantwich | 1/10 | 1/5½ |
| Nelson | 1/10½ | 1/5½ |
| Newark-on-Trent | 1/10 | 1/5½ |
| Newbury | 1/8½ | 1/4½ |
| Newcastle-on-Tyne | 1/10½ | 1/5½ |
| Newcastle-u.-Lyme | 1/10½ | 1/5½ |
| New Forest | 1/8½ | 1/4½ |
| Newmarket | 1/8½ | 1/4½ |
| Newport, Mon. | 1/10½ | 1/5½ |
| Newport Pagnell | 1/8½ | 1/4½ |
| Northampton | 1/10½ | 1/5½ |
| Norwich | 1/10½ | 1/5½ |
| Nottingham | 1/10½ | 1/5½ |
| Nuneaton | 1/10½ | 1/5½ |
| Oakham | 1/9 | 1/4½ |
| Oldham | 1/10½ | 1/5½ |
| Ormskirk | 1/10½ | 1/5½ |
| Oxford | 1/10 | 1/5½ |
| Oxted | 1/9 | 1/4½ |
| Paignton | 1/10 | 1/5½ |
| Peterborough | 1/10 | 1/5½ |
| Plymouth | 1/10½ | 1/5½ |
| Pontefract | 1/10½ | 1/5½ |
| Pontypridd | 1/10½ | 1/5½ |
| Port Talbot | 1/10½ | 1/5½ |
| Portsmouth | 1/10 | 1/5½ |
| Preston | 1/10½ | 1/5½ |
| Pulborough | 1/8½ | 1/4½ |
| Ramsgate | 1/8½ | 1/4½ |
| Reading | 1/10 | 1/5½ |
| Redditch | 1/10 | 1/5½ |
| Redhill | 1/9 | 1/4½ |
| Ripon | 1/9 | 1/4½ |
| Rochdale | 1/10½ | 1/5½ |
| Rochester | 1/9½ | 1/5 |
| Rugby | 1/10½ | 1/5½ |
| St. Albans | 1/10 | 1/5½ |
| St. Helens | 1/10½ | 1/5½ |
| St. Neots | 1/8 | 1/3½ |
| Saffron Walden | 1/7½ | 1/3½ |
| Salisbury City | 1/8 | 1/3½ |
| Salisbury Plain | 1/9½ | 1/5 |
| Sawbridgeworth | 1/9 | 1/4½ |
| Saxmundham | 1/7 | 1/3 |
| Scarborough | 1/10 | 1/5½ |
| Scunthorpe | 1/10½ | 1/5½ |
| Selby | 1/10½ | 1/5½ |
| Sevenoaks | 1/9 | 1/4½ |
| Sheerness | 1/8½ | 1/4½ |
| Sheffield | 1/10½ | 1/5½ |
| Shipley | 1/10½ | 1/5½ |
| Shoeburyness | 1/10 | 1/5½ |
| Shoreham | 1/9½ | 1/5 |
| Shrewsbury | 1/10 | 1/5½ |
| Sittingbourne | 1/8½ | 1/4½ |
| Skegness | 1/9½ | 1/5 |
| Sleaford | 1/9 | 1/4½ |
| Slough | 1/9½ | 1/5 |
| Southampton | 1/10 | 1/5½ |
| Southend-on-Sea | 1/10 | 1/5½ |
| Southport | 1/10½ | 1/5½ |
| South Shields | 1/10½ | 1/5½ |
| Spalding | 1/8½ | 1/4½ |
| Stafford | 1/10 | 1/5½ |
| Staines | 1/9½ | 1/5 |
| Stamford | 1/9½ | 1/5 |
| Stevenage | 1/9½ | 1/5 |
| Stockport | 1/10½ | 1/5½ |
| Stockton-on-Tees | 1/10½ | 1/5½ |
| Stoke-on-Trent | 1/10½ | 1/5½ |
| Stourbridge | 1/10½ | 1/5½ |
| Stourport | 1/10 | 1/5½ |
| Stowmarket | 1/7½ | 1/3½ |
| Stratford-on-Avon | 1/9½ | 1/5 |
| Stroud | 1/9½ | 1/5 |
| Sunderland | 1/10½ | 1/5½ |
| Sutton Coldfield | 1/10½ | 1/5½ |
| Swaffham | 1/7 | 1/3 |
| Swanage | 1/8½ | 1/4½ |
| Swansea | 1/10½ | 1/5½ |
| Swindon | 1/9 | 1/4½ |
| Tamworth | 1/10 | 1/5½ |
| Taunton | 1/9 | 1/4½ |
| Tenterden | 1/8½ | 1/4½ |
| Thames Haven | 1/10½ | 1/5½ |
| Thetford | 1/8 | 1/3½ |
| Thorpe Bay | 1/10 | 1/5½ |
| Todmorden | 1/10½ | 1/5½ |
| Tonbridge | 1/9 | 1/4½ |
| Torquay | 1/10 | 1/5½ |
| Totnes | 1/8½ | 1/4½ |
| Trowbridge | 1/7½ | 1/3½ |
| Truro | 1/8 | 1/3½ |
| Tunbridge Wells | 1/9 | 1/4½ |
| Uppingham | 1/9 | 1/4½ |
| Uttoxeter | 1/9 | 1/4½ |
| Wakefield | 1/10½ | 1/5½ |
| Walsall | 1/10½ | 1/5½ |
| Walsden | 1/10½ | 1/5½ |
| Walton-on-Naze | 1/8½ | 1/4½ |
| Ware | 1/10 | 1/5½ |
| Warminster | 1/7½ | 1/3½ |
| Warrington | 1/10½ | 1/5½ |
| Warwick | 1/10½ | 1/5½ |
| Wellington R.D. | 1/10 | 1/5½ |
| Welwyn | 1/9½ | 1/5 |
| Welwyn Gar. City | 1/10½ | 1/5½ |
| Wells (Norfolk) | 1/7 | 1/3 |
| West Bromwich | 1/10½ | 1/5½ |
| Westcliff-on-Sea | 1/10 | 1/5½ |
| Weston-super-Mare | 1/9½ | 1/5 |
| Weybridge | 1/9½ | 1/5 |
| Weymouth | 1/8½ | 1/4½ |
| Whitby | 1/9½ | 1/5 |
| Whitstable | 1/8½ | 1/4½ |
| Widnes | 1/10½ | 1/5½ |
| Wigan | 1/10½ | 1/5½ |
| Wigton | 1/9 | 1/4½ |
| Willington | 1/10½ | 1/5½ |
| Wilmslow | 1/10½ | 1/5½ |
| Winchester | 1/9 | 1/4½ |
| Windermere | 1/9 | 1/4½ |
| Windsor | 1/9½ | 1/5 |
| Wisbech | 1/8 | 1/3½ |
| Witham | 1/8½ | 1/4½ |
| Woking | 1/9 | 1/4½ |
| Wokingham | 1/8½ | 1/4½ |
| Wolverhampton | 1/10½ | 1/5½ |
| Woodbridge | 1/8 | 1/3½ |
| Worcester | 1/10 | 1/5½ |
| Workington | 1/9 | 1/4½ |
| Worksop | 1/10 | 1/5½ |
| Worthing | 1/8½ | 1/4½ |
| Wrexham | 1/10 | 1/5½ |
| Wroxham | 1/8 | 1/3½ |
| Wycombe | 1/9½ | 1/5 |
| Wymondham | 1/7½ | 1/3½ |
| Yeovil | 1/9 | 1/4½ |
| York | 1/10½ | 1/5½ |

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/1.
¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers, 1/6½.
§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.
NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.
For Building Trade Wages in Scotland, see page 602.

# PRICES CURRENT OF MATERIALS*

**Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery.**

**At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.**

## BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for carriage should be obtained as the haulage question is difficult.

| | £ s. d. |
|---|---|
| First Hard Stocks ..... per 1,000 | £4 5 6 |
| Second Hard Stocks ..... " | 3 18 6 |
| Mild Stocks ..... " | 3 5 6 |
| Single Rough Stocks ..... " | 2 19 6 |
| Third Common Stocks ..... " | 2 10 0 |

| 2½ in. Phorpres. A discount of 6d. 1,000 only monthly account. | King's Cross Station per 1,000. s. d. | To sites in W.C. District. per 1,000 s. d. |
|---|---|---|
| Pressed ..... | 51 9 | 58 3 |
| Keyed ..... | 53 9 | 60 3 |
| Single Bullnose ..... | 71 9 | 78 3 |
| Bullies ..... | 71 9 | 78 3 |
| Whites ..... | 72 3 | 78 3 |

| | £ s. d. |
|---|---|
| White Midhurst Facing Bricks (delivered London site) ..... | 3 12 6 |
| Best blue Pressed Staffs. (London Stns.) .. | 10 2 0 |
| Do. Bullnose (London Stns.) ..... | 10 12 0 |
| Blue Wire Cuts (London Stns.) ..... | 8 19 6 |

Best Stourbridge Fire Brick (London Stns.) :—
2½ in. ..... 9 3 6 3 in. ..... 11 1 0

GLAZED BRICKS. (London Stns.)

| | | | |
|---|---|---|---|
| Best White Ivory and Salt Glazed Stretcher ..... | 23 0 0 | D'ble Str'tch'rs .. | 36 10 0 |
| | | D'ble Headers .. | 33 10 0 |
| | | One side&two ends | 37 10 0 |
| Headers ..... | 27 10 0 | Two sides&one end | 38 10 0 |
| Quoins, Bullnose and 4½ in. Flats | 34 10 0 | Splays and Squints ..... | 36 0 0 |

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glass, £5 10s. extra over white.

## PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

| | | | |
|---|---|---|---|
| 2" per yd. sup. .... | 2 3 | 3" per yd. sup. .... | 2 9 |
| 2½" " " .... | 2 6 | 4" " " .... | 3 1 |

CLINKER CONCRETE.

| | | | |
|---|---|---|---|
| 2" per yd. sup. .... | 1 6 | 3" per yd. sup. .... | 2 0 |
| 2½" " " .... | 1 8 | 4" " " .... | 2 4 |

CRANHAM TERRA COTTA.

| | |
|---|---|
| Size 12 x 9 x 2" per yd. super ..... | 2 6 |
| Size 12 x 9 x 2½ " ..... | 2 9 |
| Size 12 x 9 x 3" " ..... | 3 3 |
| Size 12 x 9 x 4" " ..... | 3 7 |

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered: Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

| | | | |
|---|---|---|---|
| 12" x 9" x 2" .... | 2 6 | 12" x 9" x 3" .... | 3 0 |
| 12" x 9" x 2½" .... | 2 9 | 12" x 9" 4" ..... | 3 9 |

Per yard super d/d. Free on site, London.

## SAND.

| | | | |
|---|---|---|---|
| Thames Ballast .... | 8 | 6 per yd. | delivered 2 miles radius Paddington. |
| Pit Ballast ..... | 8 | 6 " " | |
| Pit Sand ..... | 10 | 0 " " | |
| Washed Sand .... | 13 | 0 " " | |
| ¼ in. Shingle .... | 8 | 0 " " | |
| ¼ in. Broken Brick | 12 | 6 " " | |
| Pan Breeze ..... | 8 | 3 " " | |

## CEMENT.

Best British Portland Cement. Standard Specification. delivered London Area. £ s. d.

| | |
|---|---|
| 4 ton loads and upwards site. ..... Per ton | 2 9 6 |
| 1 ton to 4 tons site ..... | 2 12 6 |
| Alongside Vauxhall in 80 ton lots ..... | 2 7 0 |
| "Ferocrete" Rapid Hardening Cement— | |
| 4 ton loads and upwards site ..... | 2 15 6 |
| 1 ton to 4 tons site ..... | 2 18 6 |
| Alongside Vauxhall in 80 ton lots ..... | 2 13 0 |

Stored in Reserved Bins at works. 1/6 per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30/- per ton extra on ordinary "Blue Circle" prices.

"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement ..... 3 19 6

"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement .....10 5 0

"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 4 ton lots and upwards ..... per ton 3 5 6

Plus packages at current prices.

Super Cement (Waterproof), *bags extra* ..... 3 19 6

NOTE.—Paper bags will be charged at the rate of 6/- nett per ton. Jute sacks charged 1s. 9d. nett each and 1/6 nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks.

| | | | |
|---|---|---|---|
| Roman Cement | £8 0 | Keene's Cement, White | £7 0 0 |
| Parian Cement | 7 0 | " " Pink | 6 10 0 |

Cementone Colours for cement according to tints per cwt. from £2 10s. 0d.

## PLASTER.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| Coarse, Pink .... | 4 0 0 | Sirapite, Coarse .. | 4 5 0 |
| " White .. | 4 7 6 | " Finish .. | 4 13 6 |
| Pioneer ..... | 4 5 0 | | |

Above prices for 4-ton loads and over London Area.

| | | | |
|---|---|---|---|
| Best Ground Blue Lias Lime .... | 3 0 6 | Grey Stone Lime | 2 14 6 |
| | | Chalk Lime. ..... | 2 14 6 |
| Granite Chippings | 1 15 0 | Hair per cwt. .. | 2 7 6 |

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12 6 in 6-ton lots at railway depot.

## STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 3 3½

BERE STONE—RANDOM BLOCK—

| | s. d. |
|---|---|
| Free on rail at Seaton Station. . per ft. cube | 2 3 |
| Delivered free on rail Nine Elms, S.R. " | 3 1½ |
| Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra. | |

PORTLAND STONE—

| | |
|---|---|
| Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube ..... | 4 7 |
| Do. do. delivered on road waggons as above stations, per ft. cube ..... | 4 7 |
| White bacebed, 3d. per ft. cube extra. | |
| NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft. | |

HOPTON-WOOD STONE—

| | |
|---|---|
| F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over F.ft.cb. | 13 2 |
| Sawn two sides ..... | 26 11 |
| Sawn three or four sides ..... | 31 11 |

YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London.

| | |
|---|---|
| 6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft.super | 5 6 |
| 6 in. rubbed two sides, ditto .... " | 6 3 |
| 3 in. sawn two sides slabs (random sizes) ..... " | 2 7 |
| 2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... " | 1 8½ |
| 1½ in. to 2 in. ditto ..... " | 1 4½ |

HARD YORK—

Delivered at any Goods Station, London.

| | |
|---|---|
| Scrappled random blocks. ..... per ft.cube | 6 10 |
| 6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft.super | 5 7½ |
| 6 in. rubbed two sides, ditto .... " | 6 9 |
| 4 in. sawn two sides slabs (random sizes) ..... " | 3 5 |
| 3 in. ditto ditto ..... " | 2 8 |
| 2 in. self-faced random flags .....per yd.super | 8 9 |

## CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

## HARD WOOD.

1 INCH AND UP THICK.

| Average price for prime quality. | Foot cube. £ s. d. |
|---|---|
| Dry English Wainscot Billets .. | 16 0 to 0 18 0 |
| Dry Slavonian Billet Wainscot | 17 0 to 1 0 0 |
| Dry Cuba Mahogany logs .. | 21 0 to 1 4 0 |
| Square-edged Honduras Mahogany .. .. | 0 16 6 |
| Log Cut Honduras Mahogany .. .. | 0 17 6 |
| American Figured Oak .. .. .. | 0 13 0 |
| American Plain Oak .. .. .. .. | 0 12 6 |
| Jap. Figured Oak .. .. .. .. | 0 13 0 |
| Jap. Plain Oak .. .. .. .. | 0 12 6 |
| Teak .. .. .. .. .. | 0 15 6 |
| American Whitewood .. .. .. .. | 0 12 6 |
| African Whitewood .. .. .. .. | 0 8 0 |
| African Mahogany .. .. .. .. | 0 11 0 |
| Australian Walnut .. .. .. .. | 0 19 0 |
| Australian Silky Oak .. .. .. | 0 12 6 |
| Best Scotch glue per cwt. .. .. .. | 5 0 0 |
| Liquid glue, per gallon. .. .. .. | 1 2 0 |


**Having Secured the Contract— What about the Steel Scaffolding?**

TUBULAR

—S & C—

SCAFFOLDING

*For the lowest Prices apply to the Oldest Firm in the Scaffolding Trade.*

**STEPHENS & CARTER LTD.**

The British Steel Scaffolding Co.

731-761, HARROW RD., N.W.10.

Telephone No. Ladbroke 1191 (6 lines).


## SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE.

| Scantlings in imported sizes, 2 in. by 3 in. to 4 in. by 11 in. | Minimum. £ s. d. 43 10 0 | Maximum. £ s. d. 53 0 0 |
|---|---|---|

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

| | Per standard. £ s. d. |
|---|---|
| 1 in. by 11 in. } 1 in. by 9 in. } ..... | 67 10 0 |

| | Per square. s. d. |
|---|---|
| 1 in. plain edge flooring ..... | 13 0 |
| 1¼ in. ditto ..... | 16 6 |
| 1 in. tongued and grooved ..... | 13 0 |
| 1¼ in. ditto ..... | 16 6 |

MATCHING.

| | Per square. s. d. |
|---|---|
| ¾ in. ..... | 37 6 |
| ⅞ in. ..... | 42 0 |
| 1 in. ..... | 55 0 |

## SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| 24 by 12 .... | 45 5 0 | 18 by 10 .... | 24 0 0 |
| 22 by 12 .... | 37 17 6 | 18 by 9 .... | 22 12 6 |
| 22 by 11 .... | 34 5 6 | 16 by 10 .... | 21 10 0 |
| 20 by 12 .... | 33 0 0 | 16 by 8 .... | 16 12 6 |
| 20 by 10 .... | 30 5 0 | | |

## TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London

| | £ s. d. |
|---|---|
| Best machine-made tiles from Broseley or Staffordshire district. ..... | £4 17 6 |
| Ditto hand-made ditto ..... | 5 17 6 |
| Ornamental ditto ..... | 6 2 6 |
| Hip and valley tiles { Hand-made ..... | 0 11 6 |
| (per dozen) { Machine-made ..... | 0 11 0 |

## METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

| | |
|---|---|
| R.S. Joists, cut and fitted ..... | £22 10 0 |
| Plain Compound Girders ..... | 25 0 0 |
| Stanchions ..... | 27 10 0 |
| In Roof Work ..... | 32 10 0 |

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

| Diameter. | £ s. d. | Diameter. | £ s. d. |
|---|---|---|---|
| ¼ in. ..... | 22 5 0 | ⅝ in. to ½ in. | 20 15 0 |
| ⅜ in. ..... | 21 5 0 | ¾ in. to 2½ in. .. | 20 5 0 |

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½% gross.

Fittings.

| | Tubes. ½"/6" % | Tubulars. ½"/6" % | 10/17 and 10/24 % | Flanges. ½"/3" % | 2½"/6" % |
|---|---|---|---|---|---|
| Light weight .. | 55½ | — | 43 | 51½ | 53 |
| Heavy weight | 48½ | 48½ | 40½ | 41½ | 50½ |
| Galv. lightweight | 44½ | — | 39½ | 40½ | 49½ |
| Galv. heavyweight | 36½ | 35½ | 31½ | 30½ | 41½ |

Tubes and tubulars sizes ½"/1" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

| | Gutters. | Nozzels. | Stop ends. |
|---|---|---|---|
| 3 in. ..... | 1/5 | 1/1½ | 4½d. |
| 3½ in. ..... | 1/6½ | 1/3½ | 4½d. |
| 4 in. ..... | 1/6½ | 1/5 | 6½d. |
| 4½ in. ..... | 1/7½ | 1/7½ | 8d. |
| 5 in. ..... | 1/11 | 1/9 | 8½d. |

O.G. GUTTERS.

| | | | |
|---|---|---|---|
| 3 in. ..... | 1/9½ | 1/6½ | 4½d. |
| 3½ in. ..... | 2/0½ | 1/6½ | 6½d. |
| 4 in. ..... | 2/0½ | 1/7½ | 7½d. |
| 4½ in. ..... | 2/1½ | 1/10½ | 8½d. |
| 5 in. ..... | 2/7½ | 2/1½ | 9½d. |

RAIN WATER PIPES.

| Per yd. in 6 fts. | Pipe. | Bends. | Branches. Stock angles. |
|---|---|---|---|
| 2 in. ..... | 2/1½ | 1/6 | 2/1 |
| 2½ in. ..... | 2/2½ | 1/7½ | 2/5½ |
| 3 in. ..... | 2/7½ | 2/0½ | 3/0½ |
| 3½ in. ..... | 3/1 | 2/5 | 3/6 |
| 4 in. ..... | 3/7 | 2/10½ | 4/2½ |

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent. 2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

| Per yd. in 6 fts. | Pipe | Bends. | Branches. |
|---|---|---|---|
| 2 in. ..... | 3/6½ | 2/5½ | 3/0½ |
| 2½ in. ..... | 4/2½ | 2/9 | 3/9½ |
| 3 in. ..... | 4/6½ | 3/0½ | 4/6 |
| 3½ in. ..... | 4/7½ | 3/9½ | 5/3 |
| 4 in. ..... | 5/0½ | 4/2½ | 6/0½ |

L.C.C. COATED DRAIN PIPE.

| | Pipe. | Bends. | Branches. |
|---|---|---|---|
| 3 in. per yd. in 9 fts. | 5/5 | 6/3 | 9/11 |
| cwt. qr. lbs. | | | |
| 4 in. 1 1 20. ..... | 7/11 | 7/1 | 12/6 |
| 5 in. 1 3 22. ..... | 9/7 | 12/9 | 19/3 |
| 6 in. 2 0 6 ..... | 11/5 | 14/8 | 25/0 |

Gaskin, 75/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

## PRICES CURRENT OF MATERIALS—(contd.)

| | Per ton basis in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| Iron.—Staffordshire Crown, Merchant quality | 17 2 6 | to | 18 7 6 |
| Iron.—Staffordshire Marked Bars | 20 0 0 | to | 22 0 0 |
| Mild Steel Bars | 19 12 0 | to | 21 2 0 |
| Mild Steel Hoops | 21 6 0 | to | 21 16 0 |

Ex Merchant's Stock, per ton (two-ton lots).

| | | | | | |
|---|---|---|---|---|---|
| Soft Steel Sheets, C.R. and C.A.— | | | | | |
| 20 gauge | 24 17 6 | to | 27 5 0 | | |
| 24 gauge | 25 2 6 | to | 27 0 0 | | |
| 26 gauge | 25 17 6 | to | 27 15 0 | | |
| Galvanised Corrugated Sheets, 6 ft. to 9 ft.— | | | | | |
| 20 gauge | 27 1 3 | to | 28 6 3 | | |
| 24 gauge | 27 11 3 | to | 28 16 3 | | |
| 26 gauge | 28 16 3 | to | 30 11 3 | | |
| Galvanised Flat Sheets, C.R. and C.A.— | | | | | |
| 20 gauge | 28 11 3 | to | 30 6 9 | | |
| 24 gauge | 29 1 3 | to | 30 18 9 | | |
| 26 gauge | 30 6 3 | to | 32 3 9 | | |

| | Per ton. £ s. d. | | £ s. d. |
|---|---|---|---|
| Cut Nails, 3 in. and up | 26 0 0 | to | 27 10 0 |

### ASH NEST.

Metal Windows.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

## COPPER.

| | | |
|---|---|---|
| Seamless copper tubes (basis) | per lb. | 1/3 |
| Strong sheet | " | 1/6 |
| Thin sheet | " | 1/7 |
| Copper nails | " | 1/6 |
| " wire | " | 1/6 |

## PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

Cruich Head S.D. Bib Cocks for Iron. Easy Clean.

| ½ in. | ¾ in. |
|---|---|
| 34/- | 53/- per doz. |

Chromium Plated Toilet S.D. Bib Cocks for Iron. Easy Clean.

| ½ in. | ¾ in. |
|---|---|
| 50/- | 68/- per doz. |

S.D. Stop Cocks for Iron.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. |
|---|---|---|---|---|---|
| 37/6 | 53/- | 87/- | 202/- | 268/- | 460/- per doz. |

S.D.S. Cocks with Two Unions for Lead.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. |
|---|---|---|---|---|---|
| 47/- | 75/6 | 120/- | 236/- | 360/- | 582/- per doz. |

Double Nut Boiler Screws.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. |
|---|---|---|---|---|---|
| 5/10 | 9/9 | 15/9 | 27/3 | 44/- | 63/6 per doz. |

Heavy Croydon Ball Valves. Screw Iron.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. |
|---|---|---|---|---|
| 45/- | 72/- | 120/- | 204/- | 282/- per doz. |

Caps and Screws.

| 1¼ in. | 1½ in. | 2 in. | 3 in. | 3½ in. | 4 in. |
|---|---|---|---|---|---|
| 10/6 | 12/9 | 19/3 | 34/- | 48/- | 53/- per doz. |

Brass Sleeves.

| 1½ in. | 2 in. | 2½ in. | 3½ in. | 4 in. |
|---|---|---|---|---|
| 9/9 | 12/6 | 22/6 | 33/- | 42/- per doz. |

Drawn Lead Traps with Brass Cleaning Screws.

| | 1¼ in. | 1½ in. | 2 in. | 3 in. | |
|---|---|---|---|---|---|
| 3 lb. Lead P. . . | 29/- | 38/- | 54/- | 93/- | per doz. |
| 3 lb. Lead S. . . | 36/- | 42/- | 67/- | 120/- | " |

Solder.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

## PAINTS, &c.

| | | £ s. d. |
|---|---|---|
| Raw Linseed Oil, in drums | per gallon | 0 5 4 |
| Boiled Linseed Oil, in drums | " | 0 5 7 |
| Turpentine, in drums (10 gals.) | " | 0 7 0 |
| Genuine Ground English White Lead, per ton (in not less than 5-cwt. casks). | | 62 0 0 |

Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

Genuine White Lead Paint—
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganawyte," "Polaco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots,

| | £ s. d. |
|---|---|
| per ton delivered | 86 0 0 |
| Red Lead, Dry (packages extra) . . per ton | 53 0 0 |
| Best Linseed Oil Putty (1 ton lots) per cwt. | 0 17 1½ |
| Zinc. XD quality . . . . . per lb. | 0 3 6 |

Turpentine substitute can be obtained and prices vary according to the quality from 3/- gallon upwards.

| | £ s. d. |
|---|---|
| Snowcem Cement Paint . . . . . per cwt. | 2 16 0 |
| C.M.C. Camouflage Paint . . . . . " | 2 16 0 |

## VARNISHES, &c.

| | | Per gallon. |
|---|---|---|
| Oak Varnish | Outside | 0 16 0 |
| Fine do. | " | 0 18 0 |
| Fine Copal | " | 1 0 0 |
| Pale Copal | " | 1 2 0 |
| Pale Opal Carriage | " | 1 6 0 |
| Best do. do. | " | 1 14 0 |
| Floor Varnish | Inside | 1 0 0 |
| Fine Pale Paper | " | 1 0 0 |
| Fine Copal Cabinet | " | 1 4 0 |
| Fine Copal Flatting | " | 1 2 0 |
| Hard Drying Oak | " | 1 0 0 |
| Fine Hard Drying Oak | " | 1 1 6 |
| Fine Copal Varnish | " | 1 2 6 |
| Pale do. | " | 1 14 0 |
| Best do. | " | 1 4 6 |
| Best Japan Gold Size | | 1 14 6 |
| Best Black Japan | | 0 12 0 |
| Oak and Mahogany Stain (water) | | 0 14 0 |
| Brunswick Black | | 0 9 6 |
| Berlin Black | | 0 16 0 |
| Knotting (patent) | | 0 17 0 |
| French and Brush Polish | | 0 14 0 |
| Liquid Dryers in Terebene | | 0 11 0 |
| Cutrass Black Enamel | | 0 9 0 |

## GLASS.

### ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Ordinary Glazing Quality (O.Q.) and Selected Glazing Quality (S.Q.).
Per Foot Super.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

| | O.Q. | S.Q. |
|---|---|---|
| 18 oz. in 300 ft. cases | 2½d. | 2¾d. |
| 24 oz. " 200 ft. " | 3½d. | 4d. |
| 26 oz. " 200 ft. " | 3¾d. | 4¼d. |
| 32 oz. " 200 ft. " | 5¼d. | 6½d. |
| 24 oz. " 300 ft. " | 3¼d. | 3¾d. |
| 26 oz. " 300 ft. " | 3½d. | 4¼d. |
| 32 oz. " 300 ft. " | 5½d. | 6¼d. |
| 18 oz. Obscured Sheet | | 5¼d. |
| 24 oz. Obscured Sheet | | 6¼d. |
| Fluted, 21 oz. | | 9d. |
| Enamelled, 18 oz. | | 5¼d. |
| " 24 oz. | | 6¼d. |

Extra price according to size and substance for squares cut from stock.

### ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.

| | Per ft. |
|---|---|
| Rolled plate, ¼ in. | 5½d. |
| Rough cast double rolled, ⅜ in. | 6¾d. |
| Rough cast double rolled, ½ in. | 6¾d. |
| Figured rolled, and Cathedral, white | 6¾d. |
| Figured rolled and Cathedral, tinted | 9¼d. |
| Rolled Sheet | 6d. |
| Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick | 0 10½ |

Rolled plate is the same price as rough cast double rolled.

| | Per ft. s. d. |
|---|---|
| Wire Rolled, ¼ in. thick | 0 9½ |
| Wired Cast, ¼ in. thick | 0 9½ |
| Georgian Wired Cast | 0 10 |
| "Calorex" Sheet, 21 oz. | 2 6 |
| " 32 oz. | 4 0 |
| " Cast, ¼ in. thick | 0 10 |
| " " ⅜ in. thick | 1 0 |
| " " ½ in. thick | 1 2 |
| Non Actinic Glass, ¼ in. thick | 0 9½ |
| " " ⅜ in. thick | 1 0 |
| " " ½ in. thick | 1 2 |

### "VITA" GLASS.

| | Per ft. s. d. |
|---|---|
| "Vita" Plate Glass, about 1/10 thick | |
| To 7 ft. super | 5 0 |
| Over 7 ft. super | 7 6 |
| "Vita" Sheet Glass, about 18/20 oz. | 2 0 |
| Cathedral "Vita" Glass: | |
| ¼ in. thickness | 2 0 |
| ⅜ in. " | 3 0 |
| ½ in. Georgian Wired "Vita" Glass | 3 6 |

## LEAD, &c.

| (Delivered in London.) | Per ton. £ s. d. |
|---|---|
| Lead.—Sheet, English, 4 lb. and up | 34 10 0 |
| Pipe in coils | 34 0 0 |
| Soil pipe | 39 10 0 |
| Compo pipe | 41 5 0 |

Note.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to size, 4/- per cwt. extra.

Old lead, ex London area, at Mills . . . . . per ton } £18 0 0.

## BUILDING TRADE WAGES IN SCOTLAND

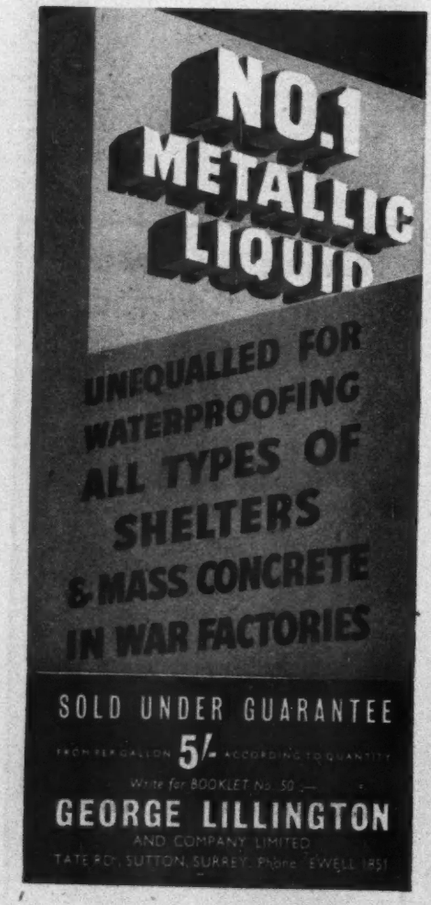
Following are grade rates authorised by the Scottish N.J.C. from June 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

| Grade Classification | A | A¹ | A² | A³ | B | B¹ |
|---|---|---|---|---|---|---|
| Craftsmen | 1/11 | 1/10½ | 1/10 | 1/9½ | 1/9 | 1/8½ |
| Labourers | 1/5½ | 1/5½ | 1/4½ | 1/4½ | 1/4 | 1/3½ |

| | | | | | | |
|---|---|---|---|---|---|---|
| Aberdeen | A | Dumfriesshire | A³ | Inverness | * | Perthshire | A³ |
| Ayrshire | A | Dundee | A | Inverurie | A¹ | Peterhead | A¹ |
| Banff | B | Dunoon | A | Kincardineshire | A³ | Renfrewshire | A |
| Berwickshire | A² | East Fife | A | Kinross-shire | A | Rothesay | A |
| Bridge of Allan | A | East Lothian | A | Lanarkshire | A | Roxburghshire | A³ |
| Broughty Ferry | A | Edinburgh | A | Midlothian | A | St. Andrews | A |
| Clackmannanshire | A | Fifeshire | A | Monifieth | A | Selkirkshire | A² |
| Doune | A | Forfarshire | A² | Moray and Nairn | B | Stewartry | A² |
| Dunblane | A | Glasgow | A | Newport | A | Stirlingshire | A |
| Dumbartonshire | A | Greenock | A | Peebleshire | A² | Stornoway | A³ |
| Dumfries | A¹ | Hamilton | A | Perth | A | Tayport | A |
| | | | | | | West Lothian | A |

* This town has its own rates: Masons, 1/8½; Carpenters, 1/8½; Slaters, 1/8½; Plumbers, 1/9; Plasterers, 1/9½; but 1/10 is paid owing to the scarcity at present; Painters, 1/8½ and Labourers, 1/4.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 600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AND COMPANY LIMITED
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## THE SCOTTISH BUILDER

**ABERDEEN.**—Sub-station.—T.C. shortly to place contracts for erection and equipment of transforming sub-station.

**CAMBUSLANG.**—Buildings.—Plans prepared for recreation hall for Auxiliary Fire Services, the architect being W. Watt, Albert-st., Motherwell.—Plans for garage at Delton prepared by J. McGovan, 23, Delton.

**DOUGLAS.**—Additions.—Plans prepared for alterations and additions to an inn, for Glasgow Public House Trust. D. McDougall, 109, West Regent-st., Glasgow, architect.

**FIFE.**—Repairs.—The Agricultural Executive Committee for West Fife and Kinross are to carry through a scheme of repairs to the farm buildings at Auchmuir. Plans by the Chief Engineer and Surveyor, Department of Agriculture for Scotland, St. Andrew's House, Edinburgh.

**GLASGOW.** — Building. — Additions are to be made to 18-22, York-st., for Initial Services, Ltd., from plans by C. Gray and Son, 393, Alexandria-parade.—Watson, Salmond and Gray, 111, Union-st., are architects for extensions to Victoria Infirmary.

**RENFREW.**—Restaurant.—The Corporation approved erection at Robertson Park of a British Restaurant, the architect being A. Allan, Municipal-bldgs.

**RUTHERGLEN.**—Works.—Plans prepared for works of Harvie and Co., Ltd. The architects are James Monro and Son, 307, West George-st., Glasgow.

### War Damage: Business Scheme Policies.

Firms are reminded that the first period of insurance under the business scheme, which applies in general to movable plant and machinery and business equipment, expired on June 15. Traders who have not taken out a policy covering the whole period from April 17 to September 30, 1941, and who are under an obligation to insure or who wish to insure, should forthwith take out a policy for the period which commenced June 16. Insurance is compulsory where insurable plant and machinery and business equipment exceeds £1,000 in value.

# CURRENT AND PROPOSED BUILDING WORK*

**Bangor.**—Plans prepared by W. G. Williams, chartered architect, Diocesan Offices, Bangor, for brick and stone 'bus shelter in Garth-rd., opposite Wellfield-gate.

**Barnsley.**—E.C. propose day nurseries adjoining New-st. clinic and 43, Gawber-rd.

**Basford.**—R.D.C. propose feeding centres at Kimberley, Ruddington and Selston.

**Batley.**—E.C. propose renovation of technical college.

**Blaydon-on-Tyne.** — U.D.C. propose three more community feeding centres. T. Mills, Sur.

**Camberwell.** — B.C. recommend £256 for alterations at Wilson's school.

**Coventry.** — T.C. approved: Rebuilding premises, Montague Burton, Ltd.; reinstatement of portion of premises, Barclays Bank, Ltd.; extension to Crown Bakery, F. G. Sutton; temporary shop premises, Loveitt and Bones, Ltd.; reconditioning and/or reconstruction of stores, Corporation; fire station, Humber-Hillman, Ltd.; temporary shop premises, John Sellright; shop premises, Patricks, Ltd.; alterations to Barras House, Swancroft-rd., Trust Houses, Ltd.; temporary shop premises, Holbrook and Son; shop premises, M. McCarthy, Ltd.; temporary licensed premises, "The Old Talbot," corner of West Orchard and Cross Cheaping, Atkinson's Brewery, Ltd.

**Coventry.**—T.C. proposes reinstatement of 35 slipper baths at Foleshill Baths.—Establishment of community feeding centre on ground floor of electricity and gas showrooms in Corporation-st. proposed.—Plans prepared by City Architect for semi-permanent buildings for communal feeding and cooking centre.—Emergency feeding centres to be provided at six council schools and at Vacqueray-st. Youth Centre.—Foleshill Congregational Church Schools to be adapted for permanent feeding centre.—Plans prepared for temporary shops on Market Hall site.

**Cumberland.** — C.C. proposes four reservoirs.

**Desborough.** — U.D.C. to construct water storage basin.

**Dewsbury.**—T.C. proposes communal feeding and cooking centre at Earlsheaton.

**Doncaster.** — T.C. to provide additional community feeding centre at Corn Exchange. Plans by F. O. Kirby, Boro' Eng., 2, Priory-pl.

**Felling-on-Tyne.**—P. L. Browne, Son and Harding, Pearl-bldgs., Northumberland-st., Newcastle-on-Tyne, prepared plans for shop, for Bowan and Co., of Pelaw.—Plans and estimates prepared for recreation-room, extension to garage, provision of lateral protection and erection of A.R.P. control-room, for U.D.C. Plans by H. Fawcett, Sur.—U.D.C. included in estimates, £3,500 for road work.—U.D.C. to apply for M.H. consent to convert "Nest House" into dwelling-houses. Plans by Sur.

**Gateshead.**—P. L. Browne, Son and Harding, Pearl-bldgs., Newcastle-on-Tyne, prepared plans for office in St. James'-rd., for Marple and Gillett, Ltd.—Premises of Sanderson Bros., Bank-st., to be reconditioned.

**Guildford.**—T.C. negotiating with Guildford Institute for its premises for conversion into public library. Cost, in first year, estimated at £5,360. Permission being sought from Government.

**Halesowen.**—T.C. proposes adaptation of old Technical School-bldgs. for communal kitchen.

**Hinckley.**—U.D.C. approved alterations to fire station.

**Holyhead.**—U.D.C. proposes communal feeding centre.

**Keswick.**—U.D.C. approved: garage, for Gas Co.; and store, for Co-operative Society.

**Kettering.**—T.C. approved plans for workshop, Bath-rd., Freman's.—T.C. proposes three water storage basins, at £1,512.

**Kidderminster.** — T.C. propose to convert former domestic science subjects' room in Bennett-st. schools for central kitchen. Plans by J. Hawcroft, Boro' Sur.

**Lancashire.**—E.C. propose exterior painting at 17 secondary schools, and central kitchen at Woolfall Heath estate, Huyton-with-Roby, Morris Hall, Urmston and Flixton Institute.

**Lancaster.**—E.C. propose additional school canteen at Marsh school.—T.C. approved: Rebuilding of mill, St. George's Quay, Lunesdale Farmers, Ltd., 1, Cable-st.

**Leicester.** — T.C. to provide communal feeding centres to accommodate 10,000 persons.

**Manchester.** — T.C. propose alternative store-room accommodation for Town Clerk's dept., at £114; adaptation of Openshaw day nursery, at £1,000; additional accommodation at Dr. Garrett memorial home for children; construction of sludge lagoons and new pumping station and conversion of disused storm-water filters into sludge drying beds.—Plans passed: additions to factory, Sharston-rd., Northenden; additions to building, Bottomley-side, Blackley; dining-room to works, Louisa-st., Openshaw; conversion of garage and transport station into showrooms and workshops, Knott Mill; canteen to works, Gt. Ancoats-st., Ancoats; rebuilding portion of premises, Hendham-vale, Cheetham; eight houses with garages, Barlow Moor-rd. and Holme-rd., West Didsbury.—Council approved repair of retaining wall of bank to Mill Brook, Baguley, and new road between Sharston-rd. and Longley-la.

**Manchester.**—T.C. approved: Additions, rear of factory, T. French and Sons, Ltd. H. S. Fairhurst and Son, chartered architects, 55, Brown-st.; additions to works and conveniences, R. and J. Dempster, Ltd.; additions, Freeholds and Leaseholds, Ltd. Oakley and Sanville, chartered architects, 60, King-st.; store rooms, Copley-Smith, Ltd., 47, Lower Mosley-st.

**Newcastle-under-Lyme.** — T.C. propose communal feeding centres at Congregational Room, King-st.; Methodist Church schools, Palmerston-st., Wolstanton; and at disused cinema in Victoria-st., Chesterton.

**Newcastle-upon-Tyne.**—Extensions to be made to tobacco factory of J. Sinclair and Co., Ltd., Oystershell-la. Architect, J. Walton Taylor and Son, Norwich Union-bldgs., Westgate-rd.

**North Riding.**—E.C. to spend £1,684 on painting and renovating of schools.

**Northants.**—C.C. propose extensions, repairs and decorations at Rushden Sanatorium.

**Reeth (Yorks).** — F. W. Stone, Sanitary Inspector to R.D.C., prepared estimates for Low Row and Feetham water schemes.

**Romsey and Stockbridge.**—R.D.C. propose huts for refugees.

**Sedgley.** — U.D.C. proposes communal feeding centre.

**Sheffield.**—E.C. to provide additional accommodation for school children in Mount Tabor Methodist church and in Sharrow-la. Methodist church Sunday-schools.—Highways Committee propose retaining wall at Chesterfield-rd., at £4,500.—T.C. approved: bridge over Broad Oaks-la., Nunnery Colliery Co., Ltd., Corn Exchange-bldgs.; reconstruction of sales shop, 35, High-st., H. Samuel, Ltd., 121, Market-st., Manchester; reconstruction of workshop, Garfitts, Ltd., London-rd.

**South Shields.**—T.C. propose more communal restaurants. Plans by N. G. Richardson, Boro' Sur., Town Hall.

**Staffs.**—C.C. propose adaptation of Stafford Cottage Homes for remand home, at £1,000.—West Midlands Joint Hospital Board propose to take over the sanatorium and isolation hospitals in Brierley Hill area and at Bilston and Bratch, Wombourn, and make improvements. — Trent Catchment Board propose drainage schemes, at £1,156.

**Stockton-on-Tees.**—T.C. to spend £800 on provision of static water supply.

**Sunderland.**—T.C. to carry out alterations to 7, Esplanade West, at £102, and Central Library Buildings, at £303. Premises to be converted into emergency hospitals. Plans by J. E. Lewis, Boro' Sur.

**Swansea.** — Corporation Parliamentary Committee decided to recommend council to permit erection of temporary one-storey shops.

**Swansea.**—Boro. Architect to carry out fencing work on Hanover-sq. housing site.—Plans passed: Alterations and additions, 208 Oxford-st. for Phillips and Sons.

**West Bromwich.** — T.C. recommend approval of scheme for provision of two water supply basins, each to cost £600.

**Widnes.**—T.C. approved: extension to canteen, Turner's Asbestos Cement Co.

**Woolwich.** — B.C. approved repairs at a refuse destructor, at £680.

**York.**—T.C. approved: Offices, Cemetery-rd., Co-operative Society, Ltd., Railway-st.

*See also Lists of Contracts Open.


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# TENDERS

**The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.**

**Tenders for A.R.P. work will be found under 'A.R.P. Schemes."**

* *Denotes accepted.*
† *Denotes provisionally accepted.*
‡ *Denotes recommended for acceptance.*
§ *Denotes accepted subject to modification.*
¶ *Denotes accepted by H.M. Government departments.*

**Cheadle and Gatley.**—(a) Reconstruction and widening Councillor-la., Cheadle, and (b) tar-spraying of various roads, approximately 140,000 su. yds., for U.D.C. J. Wrest, Eng. and Sur.: (a) *W. H. Worthington, Ltd., 61, Rusholme-rd., Manchester, 13; (b) *Box Grouting & Spraying Co., Ltd., Hartington-rd., Broadheath, Altrincham.

**Coseley.**—Surface tarring works on approx. 96,000 sq. yds. of roads, for U.D.C. G. E. Mitchell, Eng. and Sur.: *Johnston Bros., "Belmont," New-st., Wellington, Salop.

**Gateshead.**—Canteen, for Clarke, Chapman & Co., Ltd.: *A. Pringle, Ltd., Gateshead.

**Gateshead.**—Canteen, for Emerson Walkers, Ltd.: *Bewley & Scott, Dunston-on-Tyne.

**Glasgow.**—Buildings and plant, for the Clyde Trust. J. L. Gardner, architect and engineer, Robertson-st., Glasgow: General building works, *Bladen & Co., Ltd., Glasgow, £783; plant installation, *Wolverhampton Iron Co., Ltd., Wolverhampton, £6,348.

**Hebburn.**—Conversion of St. Oswald's infants' school, High Lane-row, into community feeding centre, for U.D.C. A. D. W. Dibble, Acting Sur. Quantities by Acting Sur.: *S. & H. Oake, Charles-st., Hebburn, Co. Durham, £296 9s.

**Hebden Royd.** — Outside painting of 12 houses and four bungalows, Palace House-rd., Hebden Bridge, for U.D.C. H. L. Bottomley, Sur.: *Wrigley & Sons, New-rd., Hebden Bridge.

**Kendal.** — Electricity sub-station for T.C.: *W. T. Glover & Co., Ltd., £946 14s.

**Kendal.** — Alterations and adaptations to Castle-st. school, for T.C.: Plumber, *T. Garnett, £148 0s. 4d.; plasterer, *J. Storey & Sons, £58 3s. 10d.; carpenter and joiner, *Hayes & Parkinson, £120 4s. 8d.

**Litherland.**—Demolition work and rebuilding at Lander-rd. domestic science subjects' centre, for Lancs E.C.: *W. A. Gale, Ltd., Linacre-la., Bootle, Liverpool, 20.

**Llwyn.**—Painting-work on 65 council houses, for R.D.C.: *T. E. Hughes, Pwllheli, £256.

**Lanarkshire.**—Roof work on various housing estates, for C.C. S. McColl, architect, Clydesdale-st., Hamilton: Strathavon, *Sheaver & Crawford, Strathavon; Springhall, Baillieston, *D. Caldwale, Baillieston; Holytown, *W. Mackie & Sons, Ltd., Udding-

ston; Wellshot, Springhall, Shotts, Kellyburn, Chapelhall and Harthill, *A. Dunn, Uddingston; Croft, Larkhall, *J. & A. Rowatt, Ltd., Larkhall; North-rd. Gas Works, Bellshill and Newarthall, *J. Young, Bellshill; Carmunnock, *C. Allan & Sons, East Kilbride.

¶**London (Air Ministry).**—Contracts placed to value of £500 or over for week ended June 7 :—

General maintenance work : G. E. Wallis & Sons, Ltd., Gravesend; Wm. Sindall, Cambridge; Nathaniel Grieve, Edinburgh; H. C. Janes, Ltd., Luton; and Axford & Smith, Ltd., Bath.

Building work : T. F. Howells, Ltd., Caerphilly.

Civil engineering work : Raynor Bros., Hucknall.

Contracts placed for week ended June 14 :—

Air filtration work : Z. D. Berry & Sons, Ltd., Warrington; and Fretwell Heating Co., Ltd., Leatherhead, Surrey.

General maintenance work : J. Turner & Sons (Preston), Ltd., Preston; E. E. Jenkins, Aberystwyth; and Sherfield Bros., Farnham, Surrey.

¶**London (War Dept.).**—Contracts placed for week ended June 7 :—

Ayrshire.—Hutting (erection), M. Muir & Co., Ltd., 6, Bank-pl., Kilmarnock.

Yorkshire.—Hutting (erection), E. Kilburn & Son, 27, High-st., Hanging Heaton, Batley, Yorkshire.

Derbyshire.—Miscellaneous work, Ford & Weston, Ltd., Manor-rd., Littleover, Derby.

Denbighshire.—Building work, E. E. Jeavons & Co., Ltd., Tipton, Staffordshire.

Worcestershire.—Building work, Dollon Bros, Ltd., Newtown-rd., Worcester.

Essex.—Miscellaneous works, W. Chambers & Sons (Colchester), Ltd., 101, Magdalen-st., Colchester.

Sussex.—Miscellaneous work, Structural Contractors, Ltd., Shawley-way, Epsom Downs, Surrey.

Cornwall.—Hutting (erection), Wm. F. Rees, Ltd., Bedford House, Bedford-sq., Tavistock.

Co. Antrim.—Hutting (erection), J. Moreland, 39, Powerscourt-st., Belfast; and Wm. Dowling, Ltd., 106/8, Cromwell-rd., Belfast, Co. Antrim.

Co. Armagh.—Hutting (erection) and miscellaneous work, W. J. Jeffers, 243, Castlereagh-rd., Belfast.

**Northfleet.** — Tar-spraying approximately 35,000 sq. yds. of road surface, for U.D.C. N. Gill, Sur. :—

| | |
|---|---|
| W. & J. Glossop, Ltd. | £756 16 10 |
| H. V. Smith & Co., Ltd. | 731 5 0 |
| Bristowes Tarvia, Ltd. | 723 18 9 |
| South Eastern Tar Distillers, Tonbridge | 694 13 9 |
| William F. Rees, Ltd. | 694 13 9 |
| *Johnson Bros. (Aylesford), Vale-rd., Tonbridge | 658 2 6 |

(Rest of London.)

**Northfleet.** — A.R.P. cleansing unit at Brookvale depot, Springhead-rd., for U.D.C. F. W. Jones, clerk :—

| | |
|---|---|
| G. E. Wallis & Sons, Gravesend | £1,259 |
| J. B. Lingham, Northfleet | 1,195 |
| R. A. Birchley (Builders), Ltd., Coulsdon | 1,180 |
| ‡R. Hopkins & Sons, Central Station-approach, Gravesend | 1,098 |

**Romsey.**—Repairs to properties in Middlebridge-st., for T.C. H. H. Smith, Boro' Sur. : *E. Longman & Son, 29, Middlebridge-st., Romsey.

**Sunderland.**—Works, for T.C. : Repairs to educational institutions, *direct labour, £505; painting work at Sunderland & Southwick Cemeteries, *direct labour, £400; repairs to Dutch barn at West Cherry Knowle Farm, *A. & J. Main, Ltd., Glasgow, £185; installation of new central heating system at male infirm wards of Highfield institution, *direct labour, £3,500.

**Wakefield.**—Construction of well for passenger and service lift at Town Hall, for T.C. : *H. Hainsworth (Wakefield), Ltd., £311 2s. 8½d.

**Wandsworth.**—Painting 84 maisonnettes in Fieldview, for T.C. : *F. J. Rashbrook, Ltd., £341.

**Wandsworth.**—Additional w.c. accommodation at Balham and Tooting libraries, for B.C. : *Chappell Bros., 304, Balham High-rd., S.W., £116.

**Whitby.**—Outside painting of 1 to 8, Ingster., Grosmont; 3 to 8, Water Ark Cottages, Goathland; and 1 to 30, Seaton-av., Staithes, for R.D.C. A. Sample, clerk :—

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## NEWS ITEMS

**Change of Address.**

Messrs. T. B. Williams, Ltd., builders and public works contractors, have now taken over offices at 82, Victoria-street, S.W.1, where Mr. W. Turner, managing director, will be in attendance (telephone : Victoria 8661). The head office remains at Hayes, Middlesex (telephone : Hayes 1397).

**Extortionate Rents.**

The Ministry of Health is taking steps to check the charging of extortionate rents and has called upon local authorities for a report on the situation in their areas. A circular issued by the Ministry states : "It is of the first importance that all complaints of excessive charges should be speedily considered, and the Minister is glad to know that in order to secure this, some local authorities have arranged for the regular discharge of their functions under the Rent Restriction Acts by a Committee of the Council. The Minister considers that this is a practice which should be adopted generally and he would be glad to learn that your Council has arranged accordingly."

**English Joinery Manufacturers.**

The report of the English Joinery Manufacturers' Association—presented at the annual meeting on June 12—records that at the time of the last annual meeting in March, 1940, members had received Government orders amounting to £100,000. During the next 12 months this had been increased to over £2,100,000. The Association had been consulted by the Minister of Works on the manufacture of bunks for Anderson shelters and by Mr. T. S. Tait, Director of Standardisation, on the question of standardisation of doors. Twelve new members were admitted to the Association during the year, bringing the membership to 76. Mr. Henry N. Newsum was re-elected President, and the names of Messrs. E. W. King, E. J. Motum, H. Ripper, L. Shaw and C. J. Wright were added to the Committee.


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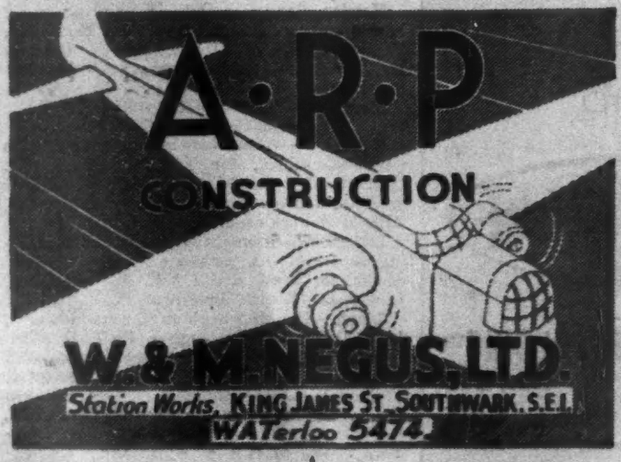


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